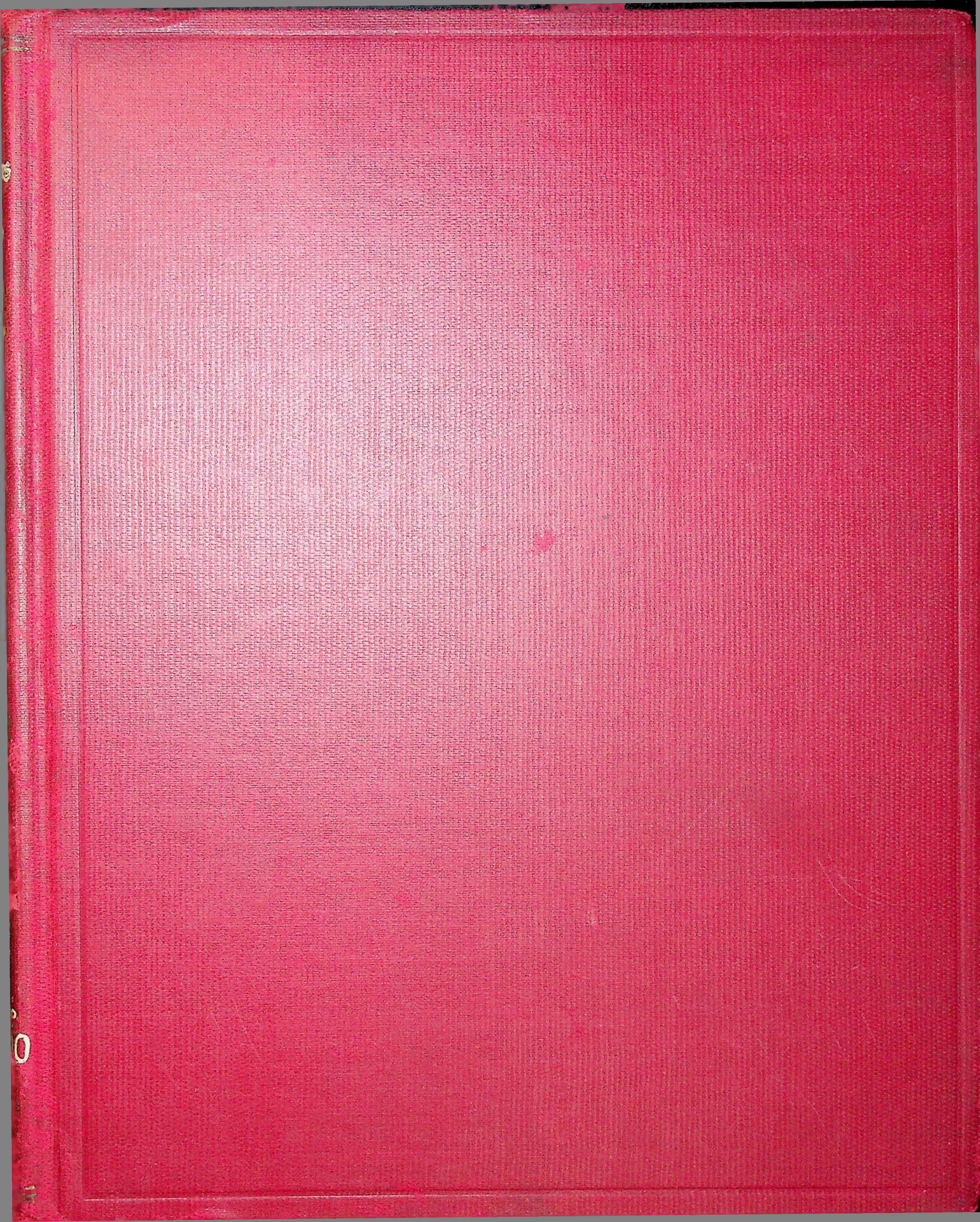










DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
SAM. L. ROGERS, DIRECTOR

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# UNITED STATES LIFE TABLES

1890, 1901, 1910, and 1901-1910

Explanatory Text, Mathematical Theory, Computations,  
Graphs, and Original Statistics

ALSO

Tables of United States Life Annuities  
Life Tables of Foreign Countries  
Mortality Tables of Life Insurance Companies

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## LETTER OF TRANSMITTAL.

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DEPARTMENT OF COMMERCE,  
BUREAU OF THE CENSUS,  
*Washington, D. C., May 1, 1920.*

SIR:

I transmit herewith the United States Life Tables, 1890, 1901, 1910, and 1901-1910, prepared by James W. Glover, expert special agent of the Bureau of the Census and professor of mathematics and insurance in the University of Michigan.

These life tables exhibit the rates of mortality and expectations of life at each age among persons living in the United States and are the finished product derived from the statistics on births, deaths, and populations in the Bureau of the Census. They show that during the two decades from 1890 to 1910 mortality conditions have greatly improved among men and women under age 50, but that after this age they have remained about stationary. They also show wide variations in the rates of mortality in different classes of the population. For example, the rates of mortality and expectations of life are much more favorable for women than for men, for persons residing in the country than for persons residing in the cities, for whites than for Negroes, and, for most ages, for the native born than for the foreign born.

All the original statistics used in the construction of the United States Life Tables are given, and the mathematical theory of the construction of the life tables is explained and the numerical processes are described.

In addition to the United States Life Tables, a number of life tables showing mortality conditions in foreign countries are included. They may be used to compare the rates of mortality and expectations of life in the United States with those in Europe, Japan, India, and Australia. Important mortality tables, based on the experience of life insurance companies in the United States and foreign countries on insured lives, are also given.

This volume is intended to be of service primarily as a source of information to the public. It should be particularly useful to public health officials, students of vital statistics, physicians, sociologists, actuaries, statisticians, and others interested in the improvement of public health. Tables of life annuities and reversions are often required in connection with the settlement of estates, valuation of reversions, retirement funds, and old-age pensions. Such tables are included at various rates of interest based on the life tables for white males and for white females in the original registration states in 1910. These life tables undoubtedly reflect more closely than any others the rates of mortality existing at the present time among white men and white women in the general population of the United States.

The Bureau has had the advice and cooperation of a special census committee representing the Actuarial Society of America, composed of John K. Gore, chairman, Robert Henderson, Arthur Hunter, William A. Hutcheson, and Henry Moir. The tables have been prepared along lines approved by this committee.

Acknowledgment is made to Miss Elbertie Foudray, who had charge of the computations and rendered valuable aid in the preparation of the tables and text; to Mr. C. S. Sloane, the geographer of the Census, for the estimates of population and the drawing of the graphs; and to Dr. William H. Davis, chief statistician for vital statistics, for assistance rendered by his division, where the major portion of the work was done.

Respectfully,

SAM. L. ROGERS,  
*Director of the Census.*

Hon. JOSHUA W. ALEXANDER,  
*Secretary of Commerce.*





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# UNITED STATES LIFE TABLES

1890, 1901, 1910, AND 1901-1910

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# UNITED STATES LIFE TABLES: 1890, 1901, 1910, AND 1901-1910.

## INTRODUCTION.

### DIVISION OF TEXT WITH REFERENCE TO USE OF LIFE TABLES.

1. This volume is the second official publication issued by the Bureau of the Census on life tables prepared from the population and death statistics of the original registration states.<sup>1</sup> It is divided into eight parts, of which the first five are nontechnical and designed for the general reader. The remaining three parts are for students and actuaries who wish to know the formulas used in the construction of the life tables, the methods employed in the numerical calculations, and the original statistics from which the tables were derived. The average reader desires to learn how to consult the tables but does not care about the methods of construction. A careful reading of Part I of this text, pages 23 to 49, will enable him to extract all the information which ordinarily will be required. In particular, it will suffice to give him a working knowledge of how to obtain the rates of mortality, expectations of life, values of annuities, and other data from the tables, and to make intelligent use of the graphs.

### EXTENT OF LIFE TABLES.

2. It is believed that the population and mortality statistics upon which the values in these life tables are based warrant confidence in the results. In practically all the tables the large numbers involved, in both the population and death statistics, tend to insure reliable averages. The smallest population for which a life table was calculated included 40,725 lives, with 13,484 reported deaths, and the largest, 24,131,759 lives, with 1,098,678 reported deaths.

These tables exhibit at each age the number of lives surviving at the beginning of the age interval out of 100,000 born alive, the number dying in the age interval, the rate of mortality per thousand, and the complete expectation of life. For the stationary population there are four more columns based on the calculated mortality rates; they show the population in current age interval, the population per death in current age interval, the population in current and all older age intervals, and the average annual death rate per thousand of population in current and all older age intervals.

Most of the tables are for populations residing in the area referred to as the original registration states—

<sup>1</sup> So called because they were the states whose registration of deaths was accepted by the bureau in 1900 when it began to publish mortality reports for each calendar year.

Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia. In addition to life tables for males and females in the original registration states, other tables are given for certain broad subdivisions of this population. These are white, Negro, native white, foreign-born white, white in cities, and white in rural districts. A second class of life tables is given for five of the large registration states, Indiana, Massachusetts, Michigan, New Jersey, and New York, and a third class is comprised of tables for the four cities, Boston, Chicago, New York, and Philadelphia. There are two tables including both sexes based on the total population of the original registration states; all other life tables are given separately for males and for females.

The United States Life Tables, 1910, published in 1916, included those for 1910 only, but the life tables in the present volume are for 1890, 1901, 1910, and 1901-1910. Most of the tables are based upon the populations of 1901 and 1910, and deaths for the three-year periods 1900-1902 and 1909-1911, respectively. Two life tables for males and females in the state of Massachusetts are the only ones based on the populations and deaths for the census year 1890. This range in the period covered by the life tables makes it possible to compare the changes in mortality rates and expectations of life which took place during two decades in Massachusetts, namely, 1890 to 1901 and 1901 to 1910, and during one decade, 1901 to 1910, in the other classes for which tables have been prepared. Several life tables covering a range of ten years have been prepared for certain important classes of the population. They are based on the reported deaths and the mean population for the entire ten-year period 1901 to 1910.

### INFANT MORTALITY TABLES.

3. In recent years much attention has been given to the lowering of infant mortality. Owing to the lack of reliable statistics on birth registration in most communities during the period for which these life tables were calculated, it was difficult to determine the rate of mortality during the first year of life. It changes very rapidly, decreasing from a monthly rate of 40 or 50 per thousand in the first month of life to 4 or 5 per thousand in the twelfth month of life. On account of the importance of this subject a separate



infant mortality table, appearing at the head of the life table, has been constructed where statistics were available, which shows the rate of mortality and other derived values in each column by age intervals of one month. An examination of the infant mortality tables reveals significant differences in mortality conditions in different classes of the general population in 1901 and in 1910, and also important changes which took place from 1901 to 1910. In most cases the calculations have been based upon the enumerated populations and reported deaths rather than on the birth registration statistics, as the numbers of reported births usually have been found too small.

#### POLICY ADOPTED IN CONSTRUCTION OF TABLES.

4. In constructing life tables it is necessary to make some adjustments of the original data. For example, it is well known that the enumerated populations and reported deaths are exaggerated at such ages as 25, 30, and 35, in other words, at multiples of 5. Also at advanced ages the numbers become so small that the calculated rates of mortality are quite irregular. While adjustments in such cases are necessary, all irregularities in the figures in these life tables have not been removed by smoothing processes. This policy was adopted in order to avoid the possible elimination of small but characteristic variations in mortality. In spite of this fact some of the tables, notably those derived from a large number of lives and reported deaths, proceed with remarkable smoothness and regularity throughout the entire range of life. On the other hand, the Negro tables and some others exhibit considerable roughness at some points. The general trend of the rate of mortality, however, is clearly apparent in every case.

#### PURPOSE OF LIFE TABLES.

5. The main purpose in presenting and explaining the tables is to make them useful to the general public. The facts set forth in figures and graphs concerning rates of mortality and expectations of life at every age for this and other countries are in themselves of interest to most persons. Copious table headings are employed and detailed explanations made to simplify the subject and to assist the reader. Too frequently questions relating to probabilities of life and death have been answered by a procession of dreary and forbidding columns of unexplained figures or in terms of unrecognizable technical symbols. It is important and highly desirable that this information be presented in such form as to attract the attention and hold the interest of the average reader.

In order to accomplish this end several pages in this volume are devoted to a detailed explanation of each of the nine columns appearing in most of the life tables. The headings of these columns, the symbols employed, and the portions of the table re-

lating to infant mortality and to general mortality are fully explained in nontechnical language. It is believed that a perusal of these pages will make it easy for the average reader to gain a great deal of useful information from the various life tables.

#### QUESTIONS AND ANSWERS.

6. While the explanation of the different columns is helpful, it is quite certain that the illustrative examples on the question and answer plan are of still more assistance. Each question stated in the text relates to some kind of information which can be obtained from the tables, and the answer is given by referring to the page upon which the particular life table appears and the column in which the desired item is found.

The section on questions and answers is divided into a number of parts corresponding somewhat to the different columns which appear in the life tables. There is one section which relates to questions and answers on the expectation of life, another on the rate of mortality per thousand, another on the stationary population, and so on. The reader is instructed not only in the use of the numbers in the life tables, but also in the use of the graphs or curves which appear in another part of this text. For certain kinds of information it is more satisfactory to refer to a graph or a combination of graphs than to columns of figures, and the questions and answers are designed to lead the reader to the discovery of this fact.

#### THE UNITED STATES LIFE TABLES.

7. Part II contains the seventy-four life tables based on populations and reported deaths in this country.

A few facts exhibited by these life tables are so important and striking as to deserve special mention. It is shown very clearly that, in general, mortality at practically all ages is higher among males than among females. In 1901 the expectation of life among white females at birth was about 2.85 years greater than that among white males, and in 1910 the excess in favor of the females had increased to 3.39 years. Another important situation revealed by the tables is that the mortality is very much lower for practically the entire range of life in the rural part of the country. In particular it appears that the most favorable mortality in this country is found among women living in the rural part. The rate of mortality among men aged 15 to 45 living in the rural part in 1901 was more favorable than that among women of the same age, but in 1910 this condition was reversed. Accordingly, without exception, at that time the lowest rates of mortality and highest expectations of life in this country were found among women living in the rural part. It would be interesting to know what conditions led to the lowering in mortality rates among rural women from ages 15 to 45 during the period 1901-1910.

There seems to have been a general improvement in mortality for all classes for the younger ages, that is, to about age 40 for men and age 50 for women, except for the Negro population. Above these ages there is no improvement, and in some cases the mortality in 1910 was actually less favorable than it was in 1901. It would therefore appear from the life tables in a general way that the efforts to improve mortality have been successful for the younger ages and up to ages 40 or 50, depending upon the sex, but for the higher ages, that is, beyond age 50, the tables indicate no signs of improvement.

Some of the tables exhibit irregularities in the rate of mortality between ages 15 and 30. They appear most strikingly in the graphs on pages 244 to 249, where the mortality curves seem to rise too rapidly for a period of years after age 15 and then to remain almost stationary for some years between ages 20 and 30, after which they start up again. Precisely the opposite is observed at the same ages in the graphs for the measure of vitality, pages 284 to 289. There is undoubtedly some cause or combination of causes tending to produce unduly high rates of mortality between ages 15 and 25, particularly in certain classes of the population. If the cause could be discovered it might be possible to effect a considerable reduction in the rates of mortality in this important age group.

#### GRAPHIC REPRESENTATION OF LIFE TABLES.

8. Part IV of this volume, pages 241 to 293, is devoted to graphs or curves plotted to scale of various mortality functions appearing in the life tables. The plotted curves are rate of mortality per thousand, number of survivors, number of deaths, complete expectation of life, and measure of vitality. The graphs are frequently drawn to several different scales on the same plate or page when it is found necessary to separate the curves. The general plan has been to choose the horizontal and vertical scales so that the different curves can be clearly distinguished on the plate. The scales were also chosen so large that the values of the functions plotted can be read without difficulty, in some cases even to the nearest tenth.

The graphs will be found particularly useful when it is desired to compare the rate of mortality, the expectation of life, or some other function for one area or class with the corresponding graphs for another area or class. For example, the differences between the rates of mortality among whites and Negroes are much more readily grasped by examining the graphs on page 248 than would be possible from an examination of the corresponding columns of figures in the life tables. In general, it may be stated that the graphs should be used where one desires to obtain a comprehensive grasp of the fluctuations or variations of one or more of the mortality functions for a group of ages or for the entire range of life. While it

would be quite impossible to hold clearly in mind a long series or column of figures, they can readily be grasped in their entirety by means of a graph or curve. The typical plate contains four graphs or curves exhibiting the ordinates of some mortality function for males and females in 1901 and 1910. Other classes and areas compared by means of graphs include whites and Negroes, cities and rural, United States and foreign countries, and the mortality experience of life insurance companies in this and other countries. The distinction between the direct use of life tables and graphs is easily made. The former are to be preferred when two or three values of a function are desired at specified ages; the latter are to be employed when it is desired to obtain a general knowledge of the variation of a function for an extended series of values or to compare the variations of a given function for different classes of the population.

#### MORTALITY IN OTHER COUNTRIES.

9. How do the probabilities of life and death in the United States compare with those of peoples living in other countries? This is one of the first questions which is likely to occur to the reader after an examination of the life tables for this country. In order to make this comparison life tables have been included for representative countries in different parts of Europe. The Orient is represented by life tables for Japan and India and the Southern Hemisphere by tables for Australia. They have been selected, so far as possible, for about the same epoch or period of time as the United States Life Tables. All the important values, including the rate of mortality per thousand and the expectation of life at each age, both for males and for females, are shown for these countries.

The rates of mortality for the general population in this country probably approach more nearly those of England than those of any other country, although they are generally less favorable in this country than in England. It may be stated in a general way that the rates of mortality among white persons in this country are less favorable than those of most of the foreign countries from age 20 to between ages 60 and 70. The rates of mortality in the rural part of this country approach more nearly those of the general population of Australia than those of any other foreign country. It is quite impossible to make any sweeping statement, except for India, about the mortality of any one country as compared with that of any other. An examination of the graphs on pages 250 and 251 shows that there are numerous crossings and recrossings of these curves, so that while the mortality in a certain country may be very favorable for a definite range of ages as compared with that of the other countries, the reverse is likely to be true for some other range of ages. For example, the rate of

mortality in Sweden after age 35 is easily below that of all other countries, but under age 35 it is not as favorable as in Australia, under age 30 not as favorable as in England and Germany, and not as favorable as in this country under age 25 down to about age 5, where the curves again begin to cross and recross. The failure of Sweden to maintain its favorable position from ages 5 to 35 is largely due to the causes producing the irregularity mentioned in section 7, this irregularity being most pronounced in the graphs of Sweden and Italy. The mortality in India is shown by the graphs to be so much higher than that of all the other countries that it is in a class by itself.

#### MORTALITY TABLES OF INSURANCE COMPANIES.

10. Several tables are included which are derived from experience on insured lives and used in this and other countries by insurance companies. Tables of this character differ materially from census life tables chiefly on account of what is known as "medical selection." The insurance company does not issue the policy and accept the risk until after the applicant has passed a satisfactory medical examination. This means that the aggregate of policyholders in an insurance company is healthier than the general unselected census population, and explains why the rate of mortality is lower in this group than in the census group, particularly in the earlier years of insurance, within five or ten years after date of policy and medical examination. Among the insurance mortality tables included are those employed in this country by the legal reserve, industrial, and fraternal companies, and a number of those employed in other countries by old line companies.

#### LIFE ANNUITIES, PREMIUMS, AND COMMUTATION COLUMNS.

11. There are many occasions in legal practice when information afforded by life tables is required. This is particularly the case in valuing or estimating the measure of damages in the event of death by accident. It is also frequently necessary in dividing estates to be able to determine the values of annuities and reversions based upon life tables. Tables of life annuities and reversions at various rates of interest are included, and in order to facilitate the calculation of other values which may be required in practice, commutation columns, including the usual functions, have been prepared. In the absence of mortality tables based upon census statistics of this country, the courts have been obliged until recently to employ a variety of tables, such as the Northampton, Carlisle, and American Experience, which do not accurately represent mortality conditions in the general population in this country. The life tables which have been chosen for this purpose are those for white males in the original registration states, 1910, and white females in the original registration states, 1910. Each of these tables is based upon a population of

about 12,000,000 and reported deaths of about 500,000, and may be regarded as furnishing a very reliable measure of the rates of mortality and the expectation of life now prevailing among white persons in this country. The annuities, premiums, and other monetary values derived with the aid of the commutation columns may likewise be regarded as closely conforming to present mortality conditions.

#### THEORY OF LIFE TABLE CONSTRUCTION.

12. A considerable portion of the text is devoted to a description of the methods employed in preparing these tables. The formulas are demonstrated in detail and accompanied by numerous explanatory diagrams and illustrations. This part is designed chiefly for the information of students and actuaries who desire to know about the methods employed and who are able to make suggestions for improvement in the construction of future tables. The United States Life Tables in this volume are based upon the census enumerations of 1890, 1900, and 1910 as to populations, and the reported deaths for the census year of 1890 and the twelve calendar years 1900 to 1911. With these original statistics the life tables were constructed from ages 5 to about 85 by the method of osculatory interpolation, employing fifth differences. Natural numbers instead of logarithms were used, and the populations and deaths were interpolated separately. Where the original statistics were given in single ages, these were grouped in quinquennial sets of 4 to 8, 9 to 13, 14 to 18, and so on.

The rates of mortality for the first five years of life were calculated, with some modifications, by the method employed in constructing the German life tables for the decennium 1891-1900, and the interval from age 5 to age 13 was bridged over by ordinary fourth difference interpolation formulas. The birth registration statistics employed were those for Massachusetts and Boston in 1901 and 1910, and the cities of New York and Philadelphia in 1910. At the advanced ages a modification of Wittstein's formula was employed, the rate of mortality being taken as unity at age 115. In order to join the osculatory interpolation with the Wittstein graduation, Spencer's 21-term formula was employed over a range, usually small, sufficient to insure a smooth junction. In all cases great care was exercised to disturb the original data as little as possible.

On account of this practice some of the tables are irregular at points. It would not be difficult to iron out these irregularities in all cases by the employment of powerful smoothing formulas. Since, however, it is not always easy to distinguish the irregularities which are characteristic of the population from those which are due merely to defective enumeration and mortality returns, it was deemed better to present these life tables in an approximately unadjusted form.

## DETAILED CONSTRUCTION OF ONE LIFE TABLE.

13. The theory of construction of life tables has to do largely with the development of formulas and general methods and is chiefly of interest to actuaries and students of actuarial mathematics. To meet the requirements of students who would like to reproduce any life table in this volume from the original data or apply the same processes to other data, the numerical work, step by step, in the construction of a typical life table is given in Part VII of this text. The table chosen for this purpose is that for males in the state of New York, 1910. In the construction of this life table there are more than a hundred steps, each of which is described in the text and illustrated by a series of photographs of the actual calculations made upon the adding machine and otherwise. These calculations are set forth in definite order, in accordance with the plan finally adopted after considerable experience and experimentation with the numerical work of life table construction. This portion of the text will be of great assistance to those who desire to learn the processes of construction without going into the mathematical theory. No attempt has been made to describe abridged methods of constructing life tables.

## VARIATIONS FROM STANDARD CONSTRUCTION.

14. The construction of the life tables for males in the state of New York, 1910, referred to in the preceding section, proceeds along certain lines which may be regarded as typical, or standard. When it is remembered, however, that there are seventy-four different life

tables, and that the original statistics for the various areas, classes, and periods are not homogeneous, it is easy to understand why it would be quite impossible to apply one and only one process to obtain them all. For example, when bridging processes are employed to connect the curve of infant mortality rates with that determined by fifth difference osculatory interpolation, and again, at the older ages, to join the end of the latter curve to the Wittstein old age curve, it is evident that the points of junction will vary from table to table. In order to meet this situation, several pages of the text are devoted to an outline of construction of all the life tables. This outline gives the additional information about each table needed to enable actuaries and students to reproduce it.

## ORIGINAL STATISTICS.

15. The original statistics from which all the United States Life Tables were derived are population and mortality statistics furnished by the Census Bureau. These statistics are reproduced in this volume. They include enumerated and estimated populations, reported deaths, and birth registration statistics so far as employed. They are presented in order that the life tables which are based upon them may be verified by those interested in the subject. A more important reason, however, for presenting them is to stimulate further investigation in life table construction, with the thought that many suggestions may be made which will be useful in the construction of future life tables.



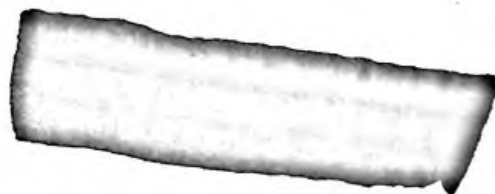


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## PART I

NONTECHNICAL DESCRIPTION AND EXPLANATION OF LIFE TABLE FUNCTIONS,  
GRAPHS, AND OTHER PARTS OF TEXT AND TABLES

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7

## PART I.—NONTECHNICAL DESCRIPTION AND EXPLANATION OF LIFE TABLE FUNCTIONS, GRAPHS, AND OTHER PARTS OF TEXT AND TABLES.

### EXPLANATION OF LIFE TABLE FUNCTIONS.

#### LIFE TABLE HEADINGS.

16. In order to assist the reader to understand and make intelligent use of the life tables, an explanation is made of the nine columns appearing in each life table. For purposes of illustration, the life table for white males in the original registration states, 1910, pages 68 and 69, is selected.

In general, the heading of each column is made up of four parts. The first part is a brief descriptive heading, the second part explains in greater detail the meaning of the figures in the column, the third part gives the algebraic symbol usually employed by actuaries to represent the function whose values appear in the column, and the fourth part gives the number of the column for convenience of reference.

#### AGE INTERVAL, $x$ to $x+1$ , COLUMN 1.

17. This column indicates the *age interval* to which the figures set forth in the other columns refer. An age interval may be defined as the period of lifetime between two exact ages. For example, the age interval 35-36 is the year of lifetime between *exact* age 35 and *exact* age 36. The beginning of this age interval is at exact age 35, and the interval covers all intervening fractional ages, such as 35 years, 3 months, 17 days. The age interval ends with exact age 36. An age interval is different from an age because it covers an interval or period of time. A person is at a given exact age, say 40, only an instant; one day later his age is 40 years, 1 day.

The *current* age interval is the age interval in the same line or row with the value of the function in the body of the table. Of two age intervals, the one farther down in the table including older ages is said to be the *older* age interval.

The first year of life is subdivided into age intervals of one month to show in greater detail the rapid changes in infant mortality. The life table then begins anew and proceeds by age intervals of one year over the entire range of life.

#### GENERATION OF 100,000 BORN ALIVE.

#### NUMBER OF SURVIVORS, $l_x$ , COLUMN 2.

18. This column exhibits the number of persons alive at the beginning of each age interval out of a generation of 100,000 males born alive. The words "born alive" are used advisedly and are intended to call attention to the fact that stillbirths are excluded and the column refers only to survivors of living births. Particular attention is called to the fact that the number alive means those alive at the *beginning* of the age interval.

For example, there are 77,047 alive at exact age 25, which is the beginning of the age interval 25-26. Similarly, there are 89,453 alive at exact age 8 months, which is the beginning of the age interval 8-9 months.

The 100,000 is a hypothetical number assumed for convenience. It may also be added that the generation of 100,000 males under observation from birth need not necessarily be assumed as born at the same time; the main point is that each one is kept under observation from the date of birth, whatever time that may have been, and it is noted how many are alive at exact age 1 month, at exact age 2 months, and so on to exact age 1 year, exact age 2 years, and so on to the end of life.

If infants in the hypothetical generation of 100,000, instead of being born simultaneously, are assumed as born uniformly throughout the calendar year, approximately 8,333 would be born in January and the same number in February, March, and so on to the end of the year. If this number of births continued each year and there were no emigration and immigration, a living population would eventually arise which would contain persons living at all ages, integral and fractional. Column 6 shows the population alive in each age interval on this hypothesis; for example, 8,031 persons are living at all ages under 1 month, that is, in the age interval 0-1 month. Similarly, 7,878 are living in the age interval 1-2 months. Adding up the populations in the twelve monthly age intervals, it appears that a population of 91,126 white males is living in the age interval 0-1 year. 100,000 infants were born uniformly throughout the year, but, owing to the deaths which took place in accordance with the mortality rates in column 4, there are only 91,126 living in the age interval under 1 year.

Columns 1 and 2 are the fundamental columns of the life table, and the remaining columns are derived from them by means of mathematical processes. The characteristic feature of column 2 is that it shows the decrement of life from interval to interval throughout the whole range of life. For example, of the 100,000 born alive 78,729, or little more than three-fourths, attain exact age 21. Not until age 59 is the original number, 100,000, reduced about one-half, namely, to 50,435. The allotted threescore and ten years is attained by 31,527, and a little over one-tenth, 10,509, of the original number live to be 81 years of age. Less than one-twentieth, 4,162, live to be 86; less than one one-hundredth, 829, live to be 92; and less than one one-thousandth, 82, attain age 98. Only 31 of the original 100,000 attain age 100.

NUMBER DYING,  $d_x$ , COLUMN 3.

19. This column shows the number dying in the corresponding or current age interval out of a generation of 100,000 males born alive. It is merely the decrement in column 2 and is obtained by taking the difference between the successive numbers in column 2. For example, column 2 shows that there were 79,116 persons alive at exact age 20 and 78,729 persons alive at exact age 21. Accordingly, the difference, 387, must be the number of persons dying in the age interval 20-21.

Referring first to the infant mortality table, the greatest number of deaths occurs in the first month of life, 4,844 dying in the age interval under 1 month. There is a rapid decrease in the number of deaths, only about one-fourth of this number, namely, 1,242, dying in the second month of age. After this the decrease is not so rapid, but by the twelfth month the number of deaths has decreased to 399. It is evident that about one-half of the 12,326 deaths under 1 year occur in the first two months of life, and that the number of deaths occurring in the twelfth month is less than one-twelfth of the number of deaths occurring in the first month.

Passing to the general life table, proceeding by age intervals of 1 year, it is seen that 12,326 of the 100,000 born during the year die under 1 year of age; in other words, about one-eighth of all the males born alive die under 1 year. There is a great improvement in the second year of life, as only 2,473 die in the age interval 1-2 years, that is, between exact ages 1 and 2. The number of deaths decreases rapidly until age interval 11-12 years, the most favorable period in life, when only 185 deaths take place. The number of deaths gradually increases from this point, reaching a maximum of 2,005 in the age intervals 73-74 and 74-75, and decreasing from that time until the last survivor of the hypothetical group of 100,000 dies in age interval 105-106.

The deaths shown in column 3 are those which take place in the succeeding age intervals in a constantly diminishing group of persons living in the corresponding age intervals. For example, 494 deaths occur in the age interval 30-31 among 74,810 who are alive at exact age 30, whereas 1,959 deaths occur in the age interval 70-71 among 31,527 alive at exact age 70, and 94 deaths occur in the age interval 95-96 among 289 alive at exact age 95. Since column 3 shows the number of deaths occurring in each age interval among a diminishing number of persons living at the beginning of the respective age intervals, these figures can not give an adequate idea of the rate of mortality. In order to compare the rate of mortality for different age intervals, the number of deaths which would occur in each interval among the *same number* of persons alive at the beginning of the age interval must be known. The next column gives this information.

RATE OF MORTALITY,  $1000q_x$ , COLUMN 4.

20. This column shows the rate of mortality per thousand, in other words, the number dying in each age interval among 1,000 alive at the beginning of the age interval. For example, in the age interval under 1 month the rate of mortality is 48.44, indicating that of 1,000 living births 48 die under 1 month. The rate of mortality for the second month of life is about one-fourth of what it is for the first month of life and diminishes rapidly, being only 4.53 for the twelfth month of life. It should be noted carefully that these are *monthly* rates.

Passing to the life table proceeding by age intervals of 1 year, it is seen that the rate of mortality for the first year of life is 123.26, or, expressing it in another way, for every 1,000 living births 123 deaths occur under 1 year of age. Similarly, out of 1,000 alive at exact age 1 year, 28 die in the second year of life. The rate of mortality decreases rapidly, reaching its most favorable point at age 11, when it is 2.28, indicating that among 1,000 boys alive at exact age 11 only about two deaths occur in the succeeding year of life. From this point on the rate of mortality gradually increases to age 22, where there is a characteristic slowing up of the increase for a few years until about age 26, when it advances again more rapidly. At age 45 the rate of mortality has increased to 12.64, about the same that it was at age 2. At age 59 it is 28.71, or about the same as at age 1. At age 79 it is 124.98, as much as it was in the first year of life. From this point on it increases rapidly, and in the age interval 105 there are about 583 deaths among 1,000 alive at exact age 105. The tables are so constructed that the rate of mortality reaches its maximum value at age 115, so that of 1,000 males alive at exact age 115 there would be 1,000 deaths during the succeeding age interval. The columns 2 and 3 are not carried beyond age 105, because it would involve introducing fractional lives, and at best the figures at these advanced ages are to be considered as only approximate.

EXPECTATION OF LIFE,  $e_x$ , COLUMN 5.

21. This column expresses the value in years of the complete expectation of life, or the average length of life remaining to each person alive at the beginning of the age interval. For example, the complete expectation of life at birth is 50.23 years. The future years of lifetime which will be lived by the 100,000 persons alive at the beginning of age interval 0-1 are shown in column 8 and are 5,023,371. If the total number of years to be lived is divided by the number of persons, 100,000, the quotient will be the average number of future years to be lived by each person. Column 2 shows 72,108 persons are alive at exact age 35. Column 8 shows that these persons still have 2,241,174 years to live. Dividing the latter number by the former, the average future lifetime of each one

of the 72,108 persons alive at exact age 35 is found to be 31.08 years. This does not mean that each person will live 31.08 years beyond age 35, but that the average number of years still to be lived by all persons who have attained age 35 is 31.08 years. Some will live more than 31 years, some less, but the number shown as the complete expectation of life is the average.

An examination of column 5 reveals the fact that the expectation of life increases about six years in the first year of life, jumping from 50.23 years at birth to 56.26 years at age 1. This rapid increase in the expectation of life is due to the rapid decrease in mortality during the first year of life. The expectation of life increases to 56.88 years at exact age 2 and from this point on steadily decreases throughout life. The expectation of life is given as about 50 years at age 12, 25 years at age 43, 10 years at age 67, 5 years at age 80, and 2 years at age 97.

#### STATIONARY POPULATION.

POPULATION IN CURRENT AGE INTERVAL,  $L_x$ , COLUMN 6.

22. Columns 6, 7, 8, and 9 refer more particularly to a *population*. There is a sharp distinction between column 2 and column 6, which has already been brought out to some extent in the discussion of column 2. Column 2, as has been pointed out, indicates the number alive at the *beginning* of each age interval, or at each exact age, among 100,000 living births under observation throughout the range of life. No assumption is made necessarily as to whether these births take place simultaneously or at different times. Column 6, however, represents the population which would eventually arise if 100,000 living births were distributed uniformly throughout each year, for example, through each calendar year. It is further assumed that this population is subject to the mortality rates set forth in column 4, also that it is free from emigration and immigration, or that if there is any emigration and immigration it takes place in such manner that its effect upon the population is canceled at each age. On this assumption a population would come into existence and persons at *all fractional ages* would be living in each age interval. For example, the 81,422 persons living in the age interval 10-11 are the survivors of the 100,000 persons who were born between 10 and 11 years ago uniformly distributed throughout the year. Eventually a maximum population would be evolved and the number of persons living in each age interval would be as set forth in column 6. This population is not affected by emigration and immigration, and will eventually become stationary or constant as to the number of persons contained in it. Since it is a stationary or constant population, the number of deaths in each year must be the same as the number of births, that is, 100,000 deaths take place each year in the complete population. The 100,000 deaths take place in this population in the age intervals as recorded

in column 3, and the rate of mortality in this population is in accordance with the figures shown in column 4. The above remarks amplify the general heading over columns 6, 7, 8, and 9.

Another way of looking at column 6 is to regard the population set forth as a hypothetical population arbitrarily set up or established. It would remain stationary as to numbers and composition if 100,000 males were born alive uniformly throughout each year, provided it were unaffected by emigration and immigration and it were subjected to the rates of mortality appearing in column 4. From this point of view it may be regarded as the standardized stationary population supported by a fixed or constant number, 100,000 of living births, and subject to the particular rates of mortality now in effect in the community on which the life table is based. With this understanding, the standardized population of different communities may be compared. The comparison is one in which the effects of emigration and immigration are eliminated and involves only the actual mortality rates in effect in the communities compared.

Column 6 shows that there are only 8,031 living simultaneously at all fractional ages in the age interval 0-1 month among the 8,333 persons born during the month preceding the date of the enumeration. Similarly, there are only 7,878 living simultaneously at all fractional ages in the age interval 1-2 months. Adding up the population by months in column 6, it is found that the population under 1 year of age is 91,126. The population living in the age interval 1-2 years is 86,215, and so on throughout the range of life. The figures in column 6 would result from taking a census of this hypothetical community at any time. For example, if a census were taken on *any* fixed date it would be found that there were 78,922 persons living in the age interval 20-21, 60,270 persons living in the age interval 50-51, 1,329 persons living in the age interval 90-91, and so on.

MEASURE OF VITALITY,  $\lambda_x = L_x/d_x$ , COLUMN 7.

23. This column is found, except for infant mortality, by dividing the figures in column 6 by the corresponding figures in column 3. Since column 6 gives the population living in the current age interval and column 3 gives the number of deaths occurring annually in the current age interval, the quotient will be the population per death per year in the current age interval. For example, in the age interval under 1 year the living population is 91,126 and the number of deaths per year is 12,326; the ratio of the former to the latter is 7.39, indicating that to every 7.39 persons in the population living in age interval under 1 year there is one death per year in this age interval. In the age interval 1-2 years there is one death per year to about every 35 persons living between exact ages 1 and 2. It is evident that



the larger the number in this column the more favorable is the mortality. Passing down the column, it is observed that the maximum value of the population per death per year is 439.09 at age 11, indicating that among boys between ages 11 and 12 there is one death per year to about every 439 in the population. This favorable condition is more than cut in half by age 20, because in the age interval 20-21 one death occurs each year to about every 204 persons. This figure is again cut in two by the time age 39 is reached. In this age interval one death occurs each year to every 101 persons in the population. It is halved again at age interval 54-55, again at age interval 63-64, and so on throughout the remaining range of life. It is interesting to note that at one point column 7 shows a decided slowing up in this decrease of what may be called the *measure of vitality*. For example, in passing from age interval 22-23 to age interval 25-26 the measure of vitality diminishes only by one or two between each age interval, but before and after these ages it diminishes much more rapidly.

Special attention is directed to the meaning of column 7 in the introductory table on infant mortality. Referring to the first age interval, 0-1 month, there are 8,031 in the population. There would not be 4,844 deaths in this population in one month. The 4,844 deaths would occur in one year, because this is the number of deaths occurring among 100,000 living births and the 100,000 living births do not occur simultaneously but are uniformly distributed throughout the year. Consequently, only one-twelfth of 4,844, namely, 404, deaths occur in *one month* corresponding to the population of 8,031. The 404 deaths occur in part among the 8,031 living at the beginning of the month and in part among those born during the month. The result is that, corresponding to a constant or stationary living population of 8,031 persons under 1 month, the number of deaths *per month* of persons under 1 month is 404.

Interpreting the infant mortality column 7 in accordance with this explanation, it appears that to every 19.92 in the population under 1 month of age there is one death per month in this age interval, or, to put it in another way, the population per death *per month* is 19.92 in the age interval under 1 month. This condition rapidly improves as the first year of life advances. There is one death per month to about every 76 in the population in age interval 1-2 months; one death per month to about every 148 in the age interval 6-7 months; and one death per month to about every 220 in the age interval 11-12 months. If it should be preferred to indicate in the infant mortality table of column 7 for each monthly age interval the population per death *per year* in the same age interval, the figures now appearing should be divided by 12.

POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS,  $T_x$ ,  
COLUMN 8.

24. This column represents the total population alive in current and all older age intervals, and is found by adding the population in column 6 from the current age interval to the end of the table. For example, referring for convenience to age intervals near the end of the table, it is noted that in the age interval 100-101, column 6, the living population is 24 and in the succeeding or older age intervals 14, 7, 4, 2, and 1, respectively. These figures add to 52, which is the number appearing in the corresponding age interval, 100-101, in column 8. Similarly, beginning with 11,335 in age interval 80-81, column 6, and adding to it the populations in the succeeding or older age intervals to the end of the table, it is found that there are 61,915 persons, as shown in column 8, living in the population in the current age interval 80-81 and all older age intervals.

Column 8, therefore, represents the sum of the populations at ages above the *beginning* of the current age interval. For example, the *total population* is 5,023,371, because it is the sum of populations at all ages after birth. The population aged 20 years and older is 3,378,969. It is evident from an examination of column 8 that about half the population is under 31 and half over 31 years of age; that about one-fourth of the population is over age 50 and about one-tenth of the population over age 64.

Column 8 not only represents the total population at a given age and older, but also represents the total number of years of future lifetime which will be lived by those alive at the beginning of the current age interval represented in column 2. For example, the 79,116 persons alive at exact age 20, column 2, will live a total of 3,378,969 more years. Consequently, as explained before in section 21, the average future lifetime of each one of these individuals at exact age 20, found by dividing column 8 by the corresponding number in column 2, is 42.71 years, and is called the complete expectation of life.

DEATH RATE PER THOUSAND,  $1000l_x/T_x$ , COLUMN 9.

25. This column, the last one appearing in the table, exhibits the average annual death rate per thousand of the population living in current and all older age intervals. In other words, it shows the average annual death rate in the population exhibited in column 8. For example, the average annual death rate in the total population of 5,023,371 is 19.91. It is found by dividing the number in column 2 by the corresponding number in column 8 and multiplying the quotient by 1,000. Column 2 also represents the annual number of deaths in the population living in current and all older age intervals. For example, there are 80,549 deaths each year in the population of 3,778,442 persons of age 15 and over. Dividing the

former by the latter and multiplying by 1,000, the average annual death rate of the population living in the age interval 15-16 and all older age intervals is found to be 21.32 per thousand. This column enables one to compare the average annual death rate per thousand in various portions of the populations in different communities. In the life table for white males of the original registration states the average annual death rate for the entire population is 19.91. It decreases to 17.58 in age interval 2-3 and from that point increases steadily to the end of the table. At age 32 it has advanced to 30 per thousand, at age 60 to about 71 per thousand, and at age 70 to 113 per thousand.

#### TO DETERMINE AVERAGE ANNUAL DEATH RATE PER THOUSAND.

26. By means of columns 8 and 2 the average annual death rate for particular sections of the population

can easily be obtained for purposes of comparison. For example, to determine the average annual death rate per thousand of the population living between ages 50 and 60, add the number of deaths between ages 50 and 60 in column 3; the population living in the age intervals 50 to 60 in column 6, divide the former by the latter, and multiply by 1,000. The number of deaths in column 3, age intervals 50-51 to 59-60, inclusive, is 11,754; the number living in the population in age intervals 50-51 to 59-60, inclusive, is 553,517. Performing the indicated division and multiplication, 21.24 is found as the average annual death rate per thousand in the population living between exact ages 50 and 60.

The same result might have been obtained more easily by applying the formula:

$$1000 \left( \frac{l_{50} - l_{60}}{T_{50} - T_{60}} \right).$$

### QUESTIONS AND ANSWERS ILLUSTRATING USE OF TABLES AND GRAPHS.

#### SCOPE AND PURPOSE OF THESE QUESTIONS AND ANSWERS.

27. In order to illustrate the kinds of information which may be obtained from these life tables, twenty-one pages of questions and answers are given in this part. The questions are answered in detail to instruct the reader in the necessary steps to be taken to secure the information. The table is named and the number of the page and the number of the column where the value of the required mortality function can be found are given.

Almost every part of this volume after Part I is covered by these questions and answers. Although most of the questions are about the United States Life Tables and the graphs of life table functions, some attention is given to the life tables of foreign countries and the mortality tables of insurance companies. Questions are also proposed which illustrate the use of the tables of annuities and the commutation columns based on the United States Life Tables.

Considerable care has been given to the selection of the questions so as to distinguish between the direct use of the life tables and the graphs of the functions. They have also been chosen so as to require the consultation of many different tables in order to familiarize the reader with them.

Any conclusion arrived at by the use of these tables is necessarily predicated on the rates of mortality existing at the epochs or during the periods for which they were constructed, in particular, for the United States Life Tables, for 1890, 1901, 1910, and the ten-year period 1901-1910.

#### RATES OF MORTALITY.

##### ANNUAL RATES OF MORTALITY.

28. Q. What was the annual rate of mortality per thousand among young people aged 21 in the original

registration states in 1910?—A. Turning to Table 2 on page 54, the life table for both sexes in the original registration states in 1910, it is found in column 4 that the annual rate of mortality per thousand at age 21 is 5.00. In other words, on the average there were 5.00 deaths between exact ages 21 and 22 among each thousand persons alive at exact age 21.

Q. At what older age was the annual rate of mortality per thousand among persons in 1910 twice the rate at age 21?—A. Age 42, the rate of mortality being 10.09 per thousand. See column 4 of Table 2, page 54.

Q. At what ages were the annual rates of mortality per thousand among persons in 1910 four times, twenty times, fifty times, and one hundred times, respectively, the rate at age 21?—A. At age 55 the annual rate of mortality per thousand was 20.03; at age 77 the rate was 101.74; at age 90 the rate was 249.62; at age 105 the rate was 500.22. See column 4 of Table 2, page 55.

Q. What was the lowest annual rate of mortality per thousand in the original registration states in 1910?—A. 2.19, the rate at age 11, as shown in column 4 of Table 2, page 54.

Q. What was the annual rate of mortality per thousand among children aged 5 in the original registration states in 1910?—A. 4.66 was the rate at age 5 according to column 4 of Table 2, page 54. The annual rate of mortality at age 5 was about double that at age 10; it was also about the same as that at age 20, which was 4.68.

#### GRAPHIC REPRESENTATION OF RATES OF MORTALITY.

29. Q. What would be the appearance of the curve plotted from these values according to ages?—A. This curve is shown in Graph 1, page 243, from birth to age 100. It is roughly U-shaped, with the

base of the U extending from about age 2 to about age 50 and the left arm only about one-fourth the height of the right arm but much steeper.

Q. Could the first five questions be answered from Graph 1 on page 243? In other words, is it possible to read the rates of mortality from this graph?—A. Only approximately from age 3 to age 50; before and after these ages the rates can be read fairly accurately to the nearest integer.

Q. If the rates of mortality of any of the other life tables were also plotted on this page, would their curves generally be higher or lower than this one?—A. With the exception of those for Negroes, India, Massachusetts in 1890, and some of the cities, the curves for any of the life tables shown in this volume would practically coincide with this curve between ages 3 and 50.

Q. Is it possible to draw these curves on a page of this size so that the curves for different tables do not coincide and so that the values of the rates of mortality can be read from the graphs to a fair degree of accuracy?—A. In Graphs 2 to 11, pages 244 to 253, showing the rates of mortality per thousand, this has been accomplished by drawing different parts of the curve to different scales, so that each graph contains at least three diagrams, A, B, and C. Since corresponding diagrams on all these graphs have exactly the same scales, it will suffice to explain one graph.

Turning to Graph 2 on page 244 as a sample, it will be seen that there are four diagrams, three of which, A, B, and C, show the *annual* rate of mortality per thousand, while D shows the *monthly* rate of mortality per thousand. Diagram C, on the extreme right, has almost the same scale as that to which the rates of mortality per thousand of both sexes in the original registration states is drawn in Graph 1, page 243. The curves in Diagram C bear a strong resemblance between ages 50 and 100 to the curve in Graph 1.

In Diagram A, the one on the extreme left, the vertical scale is twice that in Diagram C, as can be seen by comparing their values at the top of the page, 300 and 600, respectively. However, the horizontal or age scale in Diagram A is nearly eight times that in Diagram C, but extends only from birth to age 3. The large horizontal scale in Diagram A permits the separation of the curves between ages 0 and 1 year and the indication of *approximate annual* rates of mortality per thousand at each month of age under 1 year.

Q. What is the advantage of showing several curves or graphs on the same diagram when the values from which they were plotted are shown in column 4 of the different life tables?—A. In order to compare several tables without the aid of their graphs it would be necessary to turn from page to page and look up hundreds of different values and at the same time hold them all in mind. The graphs show at a glance all the variations and differences for the entire range of life.

#### ANNUAL RATES OF MORTALITY UNDER 1 YEAR.

30. Q. What were the annual rates of mortality among males in the original registration states in 1901 at birth, 3 months, 6 months, 9 months, and 1 year of age?—A. In Graph 2, page 244, it will be noted that the curve for males in 1901 is a line of short dashes, ----- . Since the curves immediately after birth are so steep that their initial values are hard to read, the values at birth, on the vertical line 0 at the extreme left of Diagram A, are printed on the graph, together with the name of the table and an arrowhead at the beginning of the curve. About 136 out of 1,000 male children born alive in 1901 died during the first year of life. Following this ----- line to about one-fourth the distance between the vertical lines 0 and 1, it will be seen that out of 1,000 male children 3 months of age in 1901 about 87 died before they were 15 months of age. About midway between the vertical lines 0 and 1 the ----- line is opposite 66 on the vertical scale; hence this is approximately the annual rate of mortality per thousand among male children 6 months of age in 1901. The reading is 47 on the vertical scale at the point where the ----- line is about three-fourths the distance between 0 and 1 year of age, and the reading is 35 where it crosses the vertical line 1.

Q. How were these annual rates of mortality under 1 year determined?—A. See section 132, page 364.

#### COMPARATIVE RATES OF MORTALITY.

31. Q. What were the rates of mortality at age 25 among males in 1901 and 1910 and among females in 1901 and 1910?—A. In Diagram B of Graph 2, page 244, the ----- line, males 1901, crosses the vertical or age line 25 at a point opposite 7.2 on the vertical scale immediately to the left of Diagram B; the ----- line, females 1901, crosses this line at a point opposite 6.9 on the vertical scale; the ----- line, males 1910, at 5.7; and the ----- line, females 1910, at 5.4. It will be noted that the values on the curves in Diagram B can be read easily to one-tenth, for they are on a large scale, the top value in Diagram B being 40, while those in Diagrams A and C are 300 and 600, respectively. Thus the vertical scale in Diagram B is 7.5 times that in Diagram A and 15 times that in Diagram C. It begins at age 3, repeating on its larger scale the last value in Diagram A, and extends until the rates of mortality are 40 per thousand. In Graph 2 this is between ages 63 and 67. Then Diagram C begins at age 50, repeating on its smaller scale the last ten to fifteen values shown in Diagram B, and extends to age 100.

Q. How did the rates of mortality among males in New York City vary between 1901 and 1910?—A. The rates in 1910 were lower than those in 1901 for all ages except between ages 61 and 64, where the 1910 rates were slightly higher than those for 1901. See column 4 of Tables 67 and 68, pages 184 to 187.

Q. Was there much change between 1901 and 1910 in the annual rate of mortality per thousand among males in the original registration states?—A. Starting with Diagram A of Graph 2, page 244, it will be observed that the annual rate of mortality at birth among males was 135.74 in 1901 and 124.95 in 1910, so that the decrease in the nine years was 10.79 per thousand, or an average decrease of about 1.2 per thousand per year.

It will be noticed that the ----- line remains above the ——— line in Diagrams A and B up to about age 42, after which they practically coincide, or else are not far apart, up to about age 87 in Diagram C. This indicates that there was considerable decrease during the nine years in the rates of mortality from birth to about age 40, but from that age on the rates of mortality either remained practically the same or else slightly increased.

The rates of mortality beyond age 85 were influenced to a slight extent by the hypothesis that the limit of life was the same for all tables, namely, age 116. For example, if the rates in table *a* were lower than those in table *b* before age 85, they would have to increase more rapidly after age 85 than those in table *b* in order to reach the same limit of life as those in table *b*.

#### CHARACTERISTIC CHANGES IN RATES AMONG MALES.

32. Q. Was this change in the rate of mortality among males characteristic of all sections of the country, or did it occur only in certain groups?—A. Turning to Graph 4 on page 246, on which are shown the rates of mortality per thousand among whites in cities of the original registration states in 1901 and in 1910, it will be noted that the decrease in the annual rate of mortality at birth during the nine years is  $150.97 - 133.80 = 17.17$ , or nearly 2 per thousand per year. After this the ----- line remains above the ——— line until about age 58, after which the lines either coincide or else remain very close together.

Turning to Graph 5, page 247, showing the rates of mortality per thousand among whites in rural parts of the original registration states in 1901 and in 1910, it will be seen that the decrease in the annual rate of mortality at birth between 1901 and 1910 is  $109.00 - 103.26 = 5.74$  per thousand, or only about one-third of the decrease among white males in cities. Also the ----- line remains above the ——— line only up to about age 34, and after that the two lines practically coincide, or the ----- line is lower than the ——— line up to extreme old age.

Turning to Graph 3, page 245, on which are shown the rates of mortality per thousand among Negroes in the original registration states, it is seen that during the nine-year period the decrease in the annual rate of mortality at birth is  $253.26 - 219.35 = 33.91$ . This is a great drop, being nearly 4 per thousand per year. However, the rates among Negroes are about twice as high as among whites. The ----- line

remains above the ----- line only up to age 20, after which it is generally considerably lower than the ----- line up to old age.

Turning to Graph 10, page 252, showing the rates of mortality per thousand in Massachusetts in 1890, 1901, and 1910, it appears that the annual rate of mortality at birth drops from 158.78 in 1901 to 137.06 in 1910, or 21.72. Except among Negroes, this is the greatest improvement found so far, but the rate in 1901 was very high and was still high in 1910. The males, 1901, line -----, remains above the males, 1910, line ———, up to about age 50 and then either coincides with it or is only a little below it up to old age. Thus it seems that the decrease in the annual rate of mortality among males at birth was greater in Massachusetts than in any of the other tables investigated, except those for Negroes.

No graphs were drawn of the native whites in the original registration states, but by comparing the values in column 4 of Tables 19 to 22 (the four life tables for native whites, males and females in 1901 and in 1910, pages 88 to 95) with those in column 4 of Tables 7, 9, 10, and 12 (the four corresponding aggregate white populations, pages 64, 68 to 71, and 74) it will be found that while the rates for native whites are generally a little lower than those for the aggregate white population, there is so little difference that their curves would practically coincide even on the large scale in Diagram B.

What has been said just above concerning the tables of mortality for native whites in the original registration states applies also to those for foreign whites in the original registration states, except that where the rates for native whites are a little lower than those for the aggregate white population, those for the foreign whites are generally a little higher, and *vice versa*.

#### MONTHLY RATES OF MORTALITY.

33. Q. In section 30 it was shown that the approximate values of the *annual* rates of mortality by months under 1 year of age could be read from the graphs in Diagram A. Why, then, is it necessary to show the *monthly* rates of mortality in Diagram D?—A. The rate of mortality changes so rapidly during the first year of life that it is necessary to choose a smaller unit interval of time, as the month, in order to satisfactorily measure the variations.

Q. Is the *annual* rate of mortality at any given age under 1 year equal to twelve times the *monthly* rate at this age?—A. No; because the *monthly* rate is based upon the number of deaths during only the first *month* following the given age, while the *annual* rate is based upon the deaths during the first *year* following the given age. If there is a rapid decrease from month to month in the number of deaths, it is evident that the annual rate of mortality would be much

lower than twelve times the monthly rate, and this is the case in the first year of life.

An illustration of this can be seen by turning to Table 48 on page 146, the life table for males in the state of Michigan, 1910. At the top of column 4 it will be noted that the *monthly* rate of mortality at birth is 51.77 per thousand, so that twelve times this rate would be over 600 per thousand, while lower down in column 4 it appears that the *annual* rate of mortality at birth is only 113.68 per thousand.

Q. What is the meaning of the monthly rate of mortality at birth, 51.77 per thousand, mentioned just above?—A. It means that out of 1,000 infants born alive 51.77 will fail to survive to the end of the first month of life. In other words, 51.77 of this group of 1,000 infants born alive will die within one month after birth.

Q. What was the monthly rate of mortality in the first month of life among white females living in the rural part of the original registration states in 1910?—

A. Referring to Table 34, page 118, column 4 of the infant mortality section of the table shows that at birth the monthly rate of mortality per thousand was 35.86. This means that on the average there were 35.86 deaths between birth and exact age 1 month among 1,000 females born alive.

Q. What changes occur in the monthly rate of mortality during the first year of life?—A. Turning to Graph 2, page 244, showing the rates of mortality among males and among females in 1901 and in 1910, it will be noted that the curves in Diagram D fall very rapidly, especially during the first month, where the decrease is about three-fourths the height of the ordinates at birth.

Q. Why is the age interval for the first month, that is, the space between the vertical lines marked 0 and 1, about two and one-half times that of any other month?—A. As noted just above, the decrease in the rate of mortality is very great during the first month, so that there is the same difficulty about separating the graphs as during the first year of life. The latter difficulty was overcome by using two diagrams, A and B, where the age interval in A is nearly eight times that in B, but there was not enough room on the page for two diagrams for the monthly curves, so the age interval for the first month only was made longer than for the other months.

Q. How did the monthly rates of mortality under 1 year of age change between 1901 and 1910 in the original registration states?—A. Diagram D of Graph 2, page 244, shows that during the first month of life the monthly rate of mortality was higher in 1910 than in 1901, but beginning with the second month of life this condition was reversed, and by the end of the third month of life the rate for females in 1901 was above that for males in 1910.

#### COMPARISON OF CHANGE IN RATES OF MORTALITY AMONG MALES AND FEMALES.

34. Q. How does the change in the annual rate of mortality per thousand between 1901 and 1910 among females compare with that among males in the original registration states?—A. In Diagram A of Graph 2, page 244, the rate of mortality at birth among females is 112.67 in 1901 and 103.77 in 1910, a decrease of 8.90 per thousand in the nine-year period, but the ----- line, females 1901, remains above the ——— line, females 1910, until age 56, after which the two lines practically coincide for several years, and then their positions are reversed up to old age. Comparing this with the answer to the last question in section 31, it will be seen that the decrease in the annual rate of mortality between 1901 and 1910 was in general greater among females than among males, although not at birth.

Q. In the different sections of the original registration states was the decrease in the rate of mortality between 1901 and 1910 always greater among females than among males?—A. Consulting Graph 4, page 246, showing the rates of mortality per thousand among whites in cities of the original registration states, it will be seen that, while the decrease in the annual rate of mortality at birth is less among females than among males, the ----- line remains above the ——— line several years longer than the ----- line remains above the ——— line.

A glance at the beginning of Diagram A of Graph 5, page 247, which gives the rates of mortality among whites in the rural districts of the original registration states, shows that the decrease in the rate of mortality at birth is less among females than among males, but the ----- line remains above the ——— line over twenty years longer than the ----- line remains above the ——— line.

Again, in Graph 3, page 245, showing the rates of mortality among Negroes in the original registration states, the decrease in the annual rate of mortality at birth is seen to be less among females than among males, but the ----- line remains above the ——— line nine years longer than the ----- line remains above the ——— line.

In Massachusetts, Graph 10 on page 252, the curves for females show a smaller decrease in the annual rates of mortality at birth than do the curves for males, but the ----- line remains above the ——— line about ten years longer than the ----- line remains above the ——— line.

Hence it seems that generally the decrease between 1901 and 1910 in the annual rate of mortality at birth was smaller among females than among males, but the 1910 rates remained lower than the 1901 rates to an older age among females than among males.

Q. From the preceding question it appears that there was always a *decrease* in the *annual* rate of mor-



tality at birth between 1901 and 1910. Was this also true of the monthly rates of mortality at birth?—A. A glance at Diagram D of Graphs 2 to 5 on pages 244 to 247, respectively, shows that there was an *increase* in the *monthly* rate of mortality at birth among the aggregate population, the Negro females, the whites in cities, and the whites in rural districts of the original registration states.

Q. In which division of the population is the increase in the monthly rate of mortality at birth between 1901 and 1910 greatest?—A. Among whites in the rural part of the original registration states. See preceding questions.

#### URBAN AND RURAL RATES OF MORTALITY.

35. Q. What were the rates of mortality per thousand for white males at birth and at ages 10, 20, 40, and 60 in 1901 in cities of the original registration states and in the rural part, and what are the differences?—A. Rates of mortality per thousand among white males in 1901

|                        | at birth | age 10 | age 20 | age 40 | age 60 |
|------------------------|----------|--------|--------|--------|--------|
| in cities were         | 150.97   | 2.97   | 6.29   | 13.54  | 38.15  |
| and in rural part were | 109.00   | 2.29   | 5.04   | 7.13   | 21.68  |
| the differences being  | 41.97    | 0.68   | 1.25   | 6.41   | 16.47  |

See column 4 of Tables 27 and 31, pages 104 and 112.

Q. What were the rates of mortality per thousand for white females at birth and at ages 10, 20, 40, and 60 in 1901 in cities of the original registration states and in the rural part, and what are the differences?—A. Rates of mortality per thousand among white females in 1901

|                        | at birth | age 10 | age 20 | age 40 | age 60 |
|------------------------|----------|--------|--------|--------|--------|
| in cities were         | 125.45   | 2.55   | 5.40   | 10.72  | 31.35  |
| and in rural part were | 89.79    | 2.12   | 5.50   | 7.47   | 20.14  |
| the differences being  | 35.66    | 0.43   | -0.10  | 3.25   | 11.21  |

See column 4 of Tables 29 and 33, pages 108 and 116.

Q. What were the rates of mortality per thousand for white males at birth and at ages 10, 20, 40, and 60 in 1910 in cities of the original registration states and in the rural part, and what are the differences?—A. Rates of mortality per thousand among white males in 1910

|                        | at birth | age 10 | age 20 | age 40 | age 60 |
|------------------------|----------|--------|--------|--------|--------|
| in cities were         | 133.80   | 2.59   | 4.93   | 12.10  | 38.51  |
| and in rural part were | 103.26   | 2.07   | 4.83   | 7.06   | 22.91  |
| the differences being  | 30.54    | 0.52   | 0.10   | 5.04   | 15.60  |

See column 4 of Tables 28 and 32, pages 106 and 114.

Q. What were the rates of mortality per thousand for white females at birth and at ages 10, 20, 40, and 60 in 1910 in cities of the original registration states and in the rural part, and what are the differences?—A. Rates of mortality per thousand among white females in 1910

|                        | at birth | age 10 | age 20 | age 40 | age 60 |
|------------------------|----------|--------|--------|--------|--------|
| in cities were         | 111.23   | 2.23   | 4.10   | 8.83   | 30.65  |
| and in rural part were | 84.97    | 1.80   | 4.41   | 6.65   | 20.06  |
| the differences being  | 26.26    | 0.43   | -0.31  | 2.18   | 10.59  |

See column 4 of Tables 30 and 34, pages 110 and 118.

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Q. Were the differences between the rates of mortality for persons residing in the cities and in the rural parts greater or less in 1910 than in 1901?—A. Less; compare the differences in the answers to the four preceding questions.

Q. Is the rate of mortality higher in the urban or rural part of the original registration states?—A. Turning to Graph 7 on page 249, showing the rates of mortality among whites in cities and in rural part of the original registration states in 1910, it will be noted that the ——— line, city males, and the ——— line, city females, are generally above and far above the ——— line, rural males, and the ——— line, rural females, respectively.

#### SIGNIFICANT IRREGULARITIES IN RATES OF MORTALITY.

36. Q. At what ages are the exceptions to the rule given in the preceding question and answer?—A. Around age 20 the ——— line approaches very near the ——— line and between ages 17 and 25 the ——— line rises above the ——— line. See Graph 7, page 249.

Q. In thus approaching and crossing one another which curves appear to be irregular?—A. Those in the rural part of the original registration states, for their curves rise very rapidly between ages 15 and 22, then scarcely increase at all for the next 10 years; the ——— line, rural males, slopes down between ages 22 and 26.

Q. Do any other tables show this apparent irregularity?—A. Practically all those for males show an irregularity something like this somewhere between the ages 10 and 35. It is also seen in some tables for females, the most striking examples of which are those for females in the rural part of the original registration states in Graph 5, page 247; those for Negro females in Graph 3, page 245; and those for females in Italy, line ———, and Sweden, line ———, in Graph 9 on page 251. See fourth question in section 39.

Q. What life tables for males exhibit this irregularity only in a small degree?—A. Those for England, line ———, and Australia, line ———, in Graph 8, page 250.

Q. What causes this irregularity?—A. Possibly much of it may be due to tuberculosis, which is peculiarly fatal in youth and early adult life.

#### MORTALITY LOWER AMONG WOMEN THAN AMONG MEN.

37. Q. Which rates of mortality are generally lower, those for males or females?—A. Column 4 in most of the life tables and the corresponding graphs show the rates of mortality to be lower for females for practically the entire range of life.

This can easily be verified by comparing the ——— lines, males, 1910, with the ——— lines, females, 1910, and the ——— lines, males, 1901, with the ——— lines, females, 1901, of Graphs 2 to 5 and 10 on pages 244 to 247 and 252. On

this last page the ..... line and the ----- line, males and females in 1890, respectively, may also be compared. Also by noting corresponding curves in Graphs 8 and 9 on pages 250 and 251 the rates of mortality for males and females in foreign countries during the period 1901-1910 may be compared.

Q. Where do the exceptions to the rule stated in the preceding question and answer occur?—A. Generally between ages 10 and 45. This is well illustrated in Graph 5, page 247, by white males, -----, and white females, -----, in rural districts of the original registration states in 1901. Among Negroes of the original registration states, 1901, Graph 3 on page 245, and in Massachusetts, 1890, Graph 10 on page 252, the curves for the rate of mortality among females are above those among males between ages 1 and 20.

#### VARIATION OF RATES OF MORTALITY WITH AGE.

38. Q. At what period in life do the rates of mortality change the least?—A. Generally between 20 and 40, but in tables which do not show the irregularity mentioned in the third question of section 36 this slow change in the rate of mortality is from about age 10 to age 40. See white females, 1910, line -----, in Graph 6 on page 248; white females in cities, 1910, line -----, Graph 4 on page 246; males and females, 1901-1910, in Australia, line -----, and in England, line -----, in Graphs 8 and 9, pages 250 and 251.

Q. At what age does the rate of mortality change most rapidly?—A. During the first few days of life. This can be seen from Diagram D of Graphs 2 to 7, pages 244 to 249.

#### COMPARISON OF MORTALITY AMONG WHITES AND NEGROES.

39. Q. How do the rates of mortality among Negroes compare with those among white people?—A. The curves representing the rates of mortality among Negroes in 1910 are almost twice as high in Graph 6 on page 248 as those among white people, and they are much more irregular. The greater irregularity in the curves for Negroes is probably partly due to the fact that the tables for white people are based upon a population over fifty times as large as that upon which the Negro tables are based and upon over thirty times as many deaths. See population and mortality statistics upon which the life tables are based at the top of Tables 9, 12, 15, and 18, pages 68, 74, 80, and 86.

Q. Is the general outline of the curves of rates of mortality among Negroes the same as among whites?—A. The curves in Graph 6, page 248, show that the general outline is the same in both cases, but in Diagrams A, B, and D the curves for Negroes are much higher than those for whites, while in Diagram C after age 80 they are lower than those for whites.

Q. Why are the curves of rates of mortality among Negroes lower than those among whites after age 80?—A. This is due in part to the fact that 116 years was

assumed to be the limit of life for both whites and Negroes. See last paragraph in section 31, page 31.

Q. Do the curves for rates of mortality among Negroes show the irregularity mentioned in the third question of section 36 in a greater or less degree than do those for the whites?—A. In a greater degree than those for the aggregate whites, according to Graph 6, page 248, but about the same as do those for whites in the rural part of the original registration states, according to Graphs 3 and 5, pages 245 and 247. However, this period of irregularity begins earlier and is ended by age 27 in the case of the curves for Negroes.

Q. Is the rate of mortality among Negroes in the original registration states increasing or decreasing?—A. Graph 3 on page 245 shows that between 1901 and 1910 there was a marked decrease in the rates of mortality from birth to between ages 20 and 30, but after that age there was a marked increase.

#### CHANGES IN RATES OF MORTALITY IN 1890-1901 COMPARED WITH THOSE IN 1901-1910.

40. Q. Was the change in the rate of mortality as great between 1890 and 1901 as between 1901 and 1910?—A. Death statistics of 1890 are believed to be as reliable for Massachusetts as for any part of the United States. Accordingly, the six curves for Massachusetts are plotted in Graph 10 on page 252. In Diagrams A and B, to between ages 45 and 50, the ----- and ----- lines, males and females in 1890, respectively, are farther above the ----- and ----- lines, males and females in 1901, respectively, than the latter are above the ----- and the ----- lines, males and females in 1910, respectively. However, in Diagram C they are below the other curves for the same sex until old age. Thus it would seem that the change in the rate of mortality between 1890 and 1901, if Massachusetts be considered a fair sample, was even a greater decrease than between 1901 and 1910 up to about age 50, and after that there was an increase, just as between 1901 and 1910.

Q. Are there any populations that show as high rates of mortality in 1910 as Massachusetts did in 1890?—A. Except the life tables for Negroes, none of the life tables in the United States, either in 1901 or in 1910, show as high rates of mortality as do the life tables for Massachusetts in 1890.

#### RATES OF MORTALITY IN UNITED STATES COMPARED WITH THOSE IN OTHER COUNTRIES.

41. Q. What other countries have published life tables?—A. Australia, Japan, and most of the countries of Europe have published life tables.

Q. Are there any for a period of time corresponding to the United States Life Tables for 1910?—A. English Life Tables No. 8.

Q. For what period are most of the recent life tables made?—A. 1901 to 1910. Hence, life tables for the white population in the original registration states, male and female, separately, were constructed for the period

1901-1910, and their rates of mortality, the ——— lines, are plotted together with those for six foreign countries in Graphs 8 and 9 on pages 250 and 251.

Q. What are these six foreign countries?—A. In Graphs 8 and 9 the rates of mortality for males and females, respectively, of four European countries are shown: England, line ———; Germany, line ———; Italy, line ———; and Sweden, line ———. These represent roughly western, central, southern, and northern Europe. There is no published life table for France for this period. There are also graphs for Australia, line ———, and India, line ———.

Q. Which of these seven countries has the highest rate of mortality?—A. India, both for males, Graph 8, and for females, Graph 9, pages 250 and 251.

Q. Which of these countries has the lowest rate of mortality?—A. From shortly after birth to between ages 35 and 40, Australia, line ———, is lowest in both Graphs 8 and 9 except between ages 20 and 35 on Graph 9, where England, line ———, is lowest. Then from between ages 35 and 40 to between 80 and 85 Sweden, line ———, is lowest, both for males and for females.

Q. How do the rates of mortality among *white males* in the original registration states compare with those among males in the six foreign countries?—A. In Graph 8, page 250, the ——— line, white males in the original registration states, is third from the bottom from birth through age 7; after that it rises more rapidly than the other curves, and from age 27 to about age 47 it is much higher than the others, except that for India. From age 47 through age 67 it is some distance beneath the curves for Germany, line ———, and England, line ———, after which it rises less rapidly than other curves and gradually sinks beneath them.

Q. How do the rates of mortality among *white females* in the original registration states compare with those among females in the six foreign countries?—A. In Graph 9, page 251, the ——— line, white females in the original registration states, is third from the bottom from birth through age 13, after which it rises rapidly, so that by age 25 it is above all but Italy, line ———, and India, line ———. After age 40 it is above all save India, although it practically coincides with the curve for England, line ———, from age 50 through age 62. From age 62 it rises less rapidly than the others and becomes the lowest curve after age 92.

Q. What is the most noticeable difference in the rates of mortality of whites in the original registration states and those in the foreign countries?—A. The rate of mortality among whites in the original registration states is less favorable than that of most of the foreign countries from age 20 to between ages 60 and 70. See the two preceding questions and answers.

Q. What class in this country approaches most nearly to the rates of mortality in Australia?—A. White in the rural part of the original registration states in 1910. See Graphs 5, 8, and 9 on pages 247, 250, and 251.

Q. What class in this country approaches most nearly to the rates of mortality in England?—A. White in the original registration states in 1910. See Graphs 6, 8, and 9 on pages 248, 250, and 251.

Q. How do the rates of mortality in India compare with those of Negroes in the original registration states?—A. In Graphs 3, 8, and 9 on pages 245, 250, and 251, it will be seen that the rates of mortality in India, the ——— line, are much higher than those for Negroes.

Q. Apart from the general form of the curve, do the rates of mortality for different countries have other features in common?—A. The lowest value is generally at ages 10 or 11, and in only very rare cases is it outside of ages 9 to 13. Also the annual rate of mortality at birth is repeated in practically all life tables between ages 75 and 85. In most of them it is repeated between the ages 77 and 82. The most notable exceptions to this are in the life tables for Negroes.

#### NUMBER OF SURVIVORS.

##### NUMBER OF SURVIVORS OF A GENERATION OF 100,000 BORN ALIVE.

42. Q. If a generation of 100,000 children born alive lived and died exactly in accordance with the rates of mortality for males in the original registration states in 1910, how many of them would live to attain age 50?—A. In column 2 of Table 4, page 59, the number of this generation surviving to age 50 is seen to be 60,118. The curve of the survivors of this generation, the ——— line in Graph 12, page 254, shows that the number of survivors at age 50 is a little over 60,000.

Q. How closely can the values of these curves of survivors in Graphs 12 to 21, pages 254 to 263, be read?—A. To about one-tenth of the space between the horizontal lines, and this represents 500 survivors.

Q. Between what ages is this generation of 100,000 born alive reduced by one-half?—A. The ——— line in Graph 12, page 254, and column 2 in Table 4, page 58, show that the generation is reduced to 50,000 between ages 58 and 59.

Q. At what ages are the generations of most life tables reduced by one-half?—A. Graphs 12 to 21, pages 254 to 263, Tables 77, 78, and 86, pages 209, 211, and 229, and the columns 2 in Tables 1 to 74 show that the original generation among white races is generally reduced by one-half between ages 55 and 70, and among Negroes between ages 25 and 40, while in India the original generation is reduced by one-half between ages 10 and 13.

Q. Out of 79,116 young white men in the original registration states in 1910 alive at age 20, how many

will be living at age 62?—A. 45,916. See column 2 of Table 9, page 69. In other words, 58.04 per cent will survive to age 62.

Q. Out of 82,275 young white men in the rural part of the original registration states in 1910 alive at age 21, how many will be alive at age 70?—A. 40,897. See column 2 of Table 32, page 115. That is, 49.71 per cent will attain age 70.

Q. Out of 76,741 white men in cities of the original registration states in 1910 aged 21, how many will be alive at age 70?—A. 25,269, or 32.93 per cent, will be alive at age 70. See column 2 of Table 28, page 107.

Q. Out of 60,772 native white men in the original registration states in 1910 aged 50, how many will be alive at age 75?—A. 23,669. See column 2 of Table 20, page 91. Thus, 38.95 per cent will reach age 75.

#### VARIATION OF NUMBER OF SURVIVORS WITH RATE OF MORTALITY.

43. Q. Upon what does the number of survivors at any given age depend?—A. Upon the sum of all the deaths which have occurred in that generation from birth up to the given age. The number of deaths in turn in each age interval depends on the rate of mortality and the number of survivors for that age interval. See first question in section 48.

Q. In Graph 2 it is seen that the rate of mortality among males in the original registration states is higher in 1901 than in 1910 only from birth to age 42. Yet, in Graph 12, page 254, the curve of survivors for males in 1910 remains above that for males in 1901 until age 75. Why is this?—A. At age 42 there are so many more survivors in the male 1910 generation than in the male 1901 generation that it requires 33 years of equal or higher rates of mortality among males in 1910 to make the number of survivors in the two generations equal.

Q. At what time of life does a high rate of mortality have the greatest effect upon the number of survivors?—A. Evidently from the two preceding questions and answers a higher rate of mortality at the younger ages has the greatest effect upon the number of survivors.

#### DIAGRAM OF SURVIVORS UNDER 1 YEAR.

44. Q. At what age does the curve of survivors change most rapidly?—A. During the first year. Diagram A of Graphs 12 to 20, pages 254 to 262, shows that the curve of survivors generally falls from 10,000 to 15,000 during this year. The drop is so abrupt that the lines can not be separated in Diagram A. This separation is shown in Diagram D where mortality statistics by months under 1 year were available.

Q. What increase in scale was necessary to separate the lines as shown in Diagram D of Graphs 12 to 17, pages 254 to 259?—A. The vertical scale in Diagram D is twice that in A and the horizontal scale is sixty times that in A. Even then the curves are not separated during the first few days of life.

Q. When the curves separate in Diagram D of Graph 12, those for 1901 are higher than those for the corresponding sex in 1910 and remain above them to between the ages 4 and 5 months. How does this happen?—A. In Diagram D of Graph 2, showing rates of mortality in the original registration states, page 244, it will be seen that the monthly rate of mortality at birth was lower in 1901 than in 1910. This condition is reversed after the first month, but the effect is shown in the curve of survivors for several months later. See section 43.

Q. At what age has the total number of deaths since birth in the original registration states become twice what they were during the first year of life?—A. Between ages 25 and 30. From Diagram D of Graph 12, page 254, it appears that the number of survivors at the end of the first year of life was between 90,000 and 85,000; in other words, there were between 10,000 and 15,000 deaths during the first year of life. In Diagram A the curves of survivors are from 80,000 to 70,000 between ages 25 to 30, so that the total deaths to that age must have been between 20,000 and 30,000, or twice that during the first year of life.

#### DIAGRAM SHOWING DEVIATION FROM THE MEAN.

45. Q. The curves in Graph 12, page 254, for males in the original registration states in 1910 and 1901, practically coincide after age 75 and those for females after age 85. Are there no differences after these ages?—A. Yes; but the scale of Diagram A is too small to show them. It is not possible in the space available here to separate these curves by drawing them in the regular way, because the drop in the curves between ages 75 and 100 is between 20,000 and 25,000, while the distance between two curves of the same sex is rarely more than 100. Therefore these four curves were transformed *without changing their relative positions* by plotting on a larger vertical scale their respective distances from their mean or average value taken as the BASE LINE in Diagram C, and the distances of the curves from it are called the DEVIATIONS FROM THE MEAN. It will be noted that the 1901 curves are slightly above those for the same sex in 1910.

Q. Does the change in mortality between 1901 and 1910 generally produce no effect upon the curve of survivors at the older ages?—A. Among whites in cities of the original registration states, Graph 14, page 256, it will be seen that the curves do not coincide until after age 95, while among whites in the rural part in Graph 15, page 257, they coincide for a few years around ages 70 and 80, and then the 1901 curves appear on top. This is more strikingly true of the Negroes in the original registration states in Graph 13 on page 255, where the curves cross near ages 55 and 65. In Massachusetts, Graph 20, page 262, the three curves for the same sex in 1890, 1901, and 1910 practically coincide after ages 80 and 85.

Q. Is there any regularity in the curves in Diagram C in Graphs 12 to 17, pages 254 to 259?—A. No, except that in the same division of population those for females are always shown above the BASE LINE, while those for males are below.

#### VARIATIONS IN FORM OF CURVE OF SURVIVORS.

46. Q. Do the curves of survivors differ much in form?—A. Not among white races, but there is a marked difference between the curves for the white and colored races. See Graphs 13 and 16 for Negroes and Graphs 18 and 19 for India, pages 255, 258, 260, and 261.

Q. Is this difference in form of the curves due to the heavy mortality under 5 years among Negroes?—A. No. Comparing the curves for Negro females in 1910, line ----- in Graph 16 on page 258, with those for males in Italy, line -----, and Germany, line -----, in Graph 18 on page 260, it will be noted that the form of all three curves from birth to age 10 is practically the same, but after that age the curve for Negro females in 1910 is almost a straight line. This is true of all the curves for Negroes and those for India.

Q. Among the curves of the six foreign countries in Graphs 18 and 19, pages 260 and 261, are there any which bear resemblance to those for whites in the rural part, Graph 15 on page 257, and those for whites in the original registration states in 1910, Graph 16 on page 258?—A. The curves for Australia, line ———, in Graphs 18 and 19, approach most nearly to those for whites in the rural part of the original registration states, while those for England, line -----, approach most nearly the curves for whites in the original registration states in 1910.

#### NUMBER OF DEATHS.

##### INCIDENCE OF DEATHS IN A GENERATION OF 100,000 BORN ALIVE.

47. Q. If a generation of 100,000 children born alive lived and died in exact accordance with the rates of mortality among males in the original registration states in 1910, how many of them would die in each age interval?—A. The number of deaths in each age interval is shown in column 3 of Table 4 on page 58. See line ——— in Graph 22, page 264.

Q. In which age interval is there the greatest number of deaths?—A. During the first year of life. See Graphs 22 to 31, pages 264 to 273.

Q. What proportion of deaths during the first year of life occurs during the first month of life?—A. From one-third to one-half, generally about two-fifths among white races and about one-third among Negroes. Compare numbers in column 3 for age intervals 0-1 month and 0-1 year in Tables 1 to 36, excluding 23 to 26, and in Tables 38, 40, 43, 46, 48, 50, 52, 54, 56, and 58, which are the only ones showing infant mortality or the first year of life by age intervals of 1 month.

Q. After the first year of life, in what age intervals do the greatest numbers of deaths occur?—A. In age interval 1-2 years among white races, and there is also a maximum number of deaths generally somewhere between ages 67 and 77; among Negroes, in age intervals 1-2, 2-3, and 3-4, and then there is also a maximum number of deaths generally somewhere between ages 55 and 65. See Graphs 22 to 31, pages 264 to 273, and Tables 1 to 74, 79, 80, and 87, pages 52 to 199, 212, 214, and 230.

#### VARIATION OF NUMBER OF DEATHS WITH NUMBER OF SURVIVORS AND RATE OF MORTALITY.

48. Q. Upon what does the number of deaths in any age interval depend?—A. The number of deaths is equal to the product of the number of survivors at the beginning of the age interval and the rate of mortality during the age interval.

Q. What similarity exists between the curves of number of deaths, number of survivors, and rate of mortality?—A. In Graphs 22 to 31, pages 264 to 273, it will be noted that from birth to some age between 50 and 60 curves of the number of deaths bear a strong resemblance to the rate of mortality curves in Graphs 1 to 11, pages 243 to 253, while from some age between 70 and 80 to the end of life these curves bear a marked resemblance to the curves of the number of survivors in Graphs 12 to 21, pages 254 to 263.

Q. Does the apparent irregularity mentioned in section 36, page 33, appear in the curve of the number of deaths?—A. Yes. It is manifested by a decided rise in the curve, usually between ages 15 and 25, sometimes accompanied by a maximum point near age 20. See Graphs 22 to 31, pages 264 to 273.

Q. What is the total number of deaths in column 3 of Tables 1 to 74, pages 52 to 199, and in any column in Tables 79 and 80, pages 212 and 214?—A. 100,000, since all the generation have died by the end of the life table.

Q. How many deaths are there of persons aged 75 years and over in the life table for males in the original registration states in 1910?—A. In column 2 of Table 4, page 59, it will be noted that there are 21,213 survivors at age 75, and as all these die after age 75 the number of deaths of persons aged 75 and over is 21,213. In other words, column 2 represents not only the survivors to each age but also the number of persons who die in current and all older age intervals. See also the last question and answer in section 44.

#### COMPLETE EXPECTATION OF LIFE.

##### COMPLETE EXPECTATION OF LIFE AT BIRTH.

49. Q. If a generation of 100,000 children born alive lived and died in exact accordance with the table of mortality for males in the original registration states in 1910, what would be their average lifetime? In other words, what would be the expectation of life at birth?—A. In Table 4, page 58, at the beginning of column 5, it will be seen that at birth the expectation



of life among males in the original registration states in 1910 was 49.86 years. In other words, the total number of years lived by all these 100,000 children born alive, when divided by 100,000, gives an average lifetime of nearly 50 years. This is also shown on Graph 32, page 274, which shows the expectation of life in the original registration states.

Q. Compared with other populations, is this a long or short average length of life?—A. From Graphs 32 and 34 to 40 on pages 274 and 276 to 282, and in column 5 of Tables 1 to 12, 19 to 22, 27 to 34, 37 to 74, pages 52 to 75, 88 to 95, 104 to 119, and 124 to 199, and in Tables 81 and 82, pages 216 and 218, it will be seen that at birth the expectations of life among white races range from about 40 to 59 years. Hence 49.86 is about the average.

Q. What white populations shown in this volume have the highest and lowest expectations of life at birth?—A. Females in Australia, 1901–1910, had an expectation of life at birth of 58.84 years, while males in New York City in 1901 had an expectation of life at birth of 40.65 years. See line ——— in Graph 39, page 281; column 2 of Table 82, page 218; and column 5 of Table 67, page 184.

#### MAXIMUM EXPECTATION OF LIFE.

50. Q. Is the greatest expectation of life at birth?—A. No. According to Diagrams A and D of Graphs 32 to 40, pages 274 to 282, and column 5 of Tables 1 to 74 (except Tables 23 to 26), pages 52 to 199, and Tables 81 and 82, pages 216 and 218, the maximum value of the expectation of life occurs at or near age 2.

Q. What was the expectation of life at age 2 among males in the original registration states in 1910?—A. The ——— line in Diagram D of Graph 32, page 274, is a little over 56½ years at age 2, and in column 5 of Table 4, page 58, the exact figures are seen to be 56.59 years. In other words, if the sum of all the future years to be lived after age 2 by the children who survive to age 2 in this generation of 100,000 children born alive were divided by the number of survivors at age 2, the quotient would be 56.59.

Q. How does the greatest expectation of life among males in the original registration states in 1910 compare with that of other white races?—A. Diagrams A and D in Graphs 32 and 34 to 40, pages 274 and 276 to 282, and column 5 in Tables 1 to 74 on pages 52 to 199 (except Tables 13 to 18, 23 to 26, 35, and 36), and Tables 81 and 82, pages 216 and 218, show that the greatest expectation of life among white races generally comes to those who survive to age 2 and ranges from about 49 to 63 years. Sometimes the greatest expectation of life is shown for those who survive to age 3, but in those life tables the rates of mortality are generally quite high.

Q. At what age is the expectation of life greatest among Negroes and among the people of India?—

A. At age 3 among Negroes, and among the people of India at age 5. See column 5 of Tables 13 to 18, 35, and 36, pages 76 to 87 and 120 to 123, and line ——— in Graphs 8 and 9, pages 250 and 251.

Q. What is the range of the maximum expectation of life among Negroes and in India according to the tables and graphs just mentioned?—A. 41 to 47 years among Negroes and from 35 to 36 years in India. The graphs for the expectation of life for India, pages 280 and 281, from birth to age 50 were so low that they had to be drawn in Diagram B, and the ages and values for the first half of the graph should be read from the top and the right side, respectively, instead of from the bottom and the left side.

Q. In Graph 33 for Negroes, page 275, why is Diagram B above Diagram A?—A. In order to compare the curves in Diagram A of Graphs 32 to 41 they were not only drawn to the same scale but the limits of the vertical scale of Diagram A are the same in each case, so that the top of any graph is always 62 years and the bottom 16 years according to Diagram A. At the beginning of Diagram A in Graph 33 the curves lie so low on the page that Diagram B could not be drawn beneath it; hence Diagram B was put at the top.

#### VARIATION OF EXPECTATION OF LIFE.

51. Q. What determines the expectation of life at any age?—A. The rate of mortality at that age and all older ages.

Q. What is the range of the increase in expectation of life between birth and ages 2 or 3?—A. Among white races from 4½ to 10 years and among Negroes and the people of India from 10 to 13 years. See Graphs 32 to 40, pages 274 to 282, and column 5 of Tables 1 to 74 (except Tables 23 to 26), pages 52 to 199, and Tables 81 and 82, pages 216 and 218.

Q. Is this increase uniform?—A. No. Diagram D, in the upper right-hand corner of Graphs 32 to 35 and 37, pages 274 to 277 and 279, shows this increase according to months under 1 year of age on a vertical scale the same as in Diagram A, but on a horizontal scale seven times as large. From these diagrams it appears that the greater part of the increase occurs during the first year of life, and about one-third of that occurs during the first month of life.

#### CHANGE IN EXPECTATION OF LIFE BETWEEN 1901 AND 1910.

52. Q. What change in the expectation of life occurred in the original registration states between 1901 and 1910?—A. Graph 32 on page 274 shows that the expectation of life at birth was raised two years among males and two and one-half years among females. Also the 1910 curves remain above those for the same sex in 1901 until about age 30 among the males and age 40 among the females. After that the 1910 curves are lower than those of the same sex in 1901 until old age.

Q. What was the change in the expectation of life between 1901 and 1910 among Negroes of the original registration states?—A. Graph 33 on page 275 shows that the expectation of life was lower among Negro males in 1910 than in 1901 between ages 1 and 75 and among Negro females between ages 8 and 85.

Q. Was the increase in the expectation of life greater in cities or in the rural part of the original registration states between 1901 and 1910?—A. Graphs 34 and 35, pages 276 and 277, show that there was a much greater increase among whites in cities than among whites in the rural part of the original registration states.

Q. In which interval was the increase in expectation of life in Massachusetts greater, between 1890 and 1901 or between 1901 and 1910?—A. Between 1890 and 1901 according to Graph 40 on page 282.

#### COMPARISON OF EXPECTATION OF LIFE IN DIFFERENT CLASSES.

53. Q. Was the expectation of life in 1910 greater in the cities or in the rural part of the original registration states?—A. Graph 37 on page 279 shows that it was much greater in the rural part of the original registration states.

Q. How does the expectation of life among Negroes compare with that among whites?—A. According to Graph 36 on page 278, the expectation of life at birth among Negroes is 16 years less than among whites. After this the curves gradually approach one another, until between ages 75 and 80 in Diagram B the curves for Negroes rise above those for whites. Diagram B had to be divided into two parts, B<sub>1</sub> in the lower left corner and B<sub>2</sub> in the upper right corner, because the curves for Negroes in Diagram A are so low on page 278. See last question and answer in section 50.

Q. How does the expectation of life among whites in the rural part of the original registration states in 1910 compare with those in foreign countries?—A. Graphs 35 and 38, pages 277 and 280, show that the expectation of life among white males, line ———, in the rural part of the original registration states in 1910 between birth and age 5 is very near to that among males in Australia, line ———, and after age 5 it is near to that among males in Sweden, line ———. On the other hand, Graphs 35 and 39, pages 277 and 281, show that the expectation of life among white females, line ———, in the rural part of the original registration states in 1910 between birth and age 20 is near to that among females in Sweden, line ———, but after that age it is very near that of females in Australia, line ———.

Q. How does the expectation of life among whites in the cities of the original registration states in 1910 compare with those in foreign countries?—A. Graphs 34 and 38, pages 276 and 280, show that while the expectation of life at birth among white males, line ———, in cities of the original registration states in 1910 is only a little lower than that among males in

England, line ———, at birth, from that age up to age 65 it is lower and considerably lower than that among males in the foreign countries shown here except India. Graphs 34 and 39, pages 276 and 281, show that while the expectation of life at birth among white females, line ———, in cities of the original registration states in 1910 is only a little lower than that among females in England, line ———, at birth, after that age to age 20 it is only a little above that of Italy, line ———, the lowest among the foreign nations except India; then between ages 20 and 60 it is lower than any of the foreign countries except India.

Q. According to the life tables in this volume, which have the higher expectation of life, males or females?—A. Females. See column 5 in Tables 1 to 74, 81, and 82, pages 52 to 199, 216, and 218 and Graphs 32 to 40, pages 274 to 282.

Q. Is this true even to the older ages?—A. Yes. In Diagram C of Graphs 32, 34, 35, and 37, pages 274, 276, 277, and 279, it will be noted that the graphs for females are generally above the base line, while those for males are generally below. In Diagram C the separation of the curves at the older ages is shown in the same way as in the curves for survivors. See first question and answer in section 45, page 36. The horizontal scale is greatly reduced while the vertical scale is ten times as large as that in Diagram B, except in Graph 34 on page 276, where it is only five times that in Diagram B.

Q. Why is there no Diagram C in Graphs 33 and 36 for Negroes?—A. For Negroes the curves for expectation of life for the same sex in 1901 and 1910 cross at age 75 for males and age 85 for females and are rather widely separated after those ages, and Diagram C is not necessary.

#### STATIONARY POPULATION.

##### ITS PRODUCTION AND THE GENERAL CONDITIONS EXISTING IN IT.

54. Q. If instead of one generation of 100,000 children a new generation of 100,000 children were born alive uniformly throughout each year and lived and died in exact accordance with the rates of mortality among males in the original registration states in 1910, what would be the total number in the stationary population that would ultimately be formed?—A. At the head of column 8 in Table 4, page 58, this total is seen to be 4,986,495.

Q. How many years, or, in other words, how many annual generations of 100,000 births, would be required to form this stationary population of 4,986,495?—A. 107 years, or one generation for each age in the life table.

Q. What would be the annual number of deaths in this stationary population?—A. The number of deaths each year would equal the number of births, or 100,000, since neither the total number nor the number in any age interval in a stationary population would change with time.

Q. In this stationary population how many would survive to each age each year?—A. As many as are shown in each age interval in column 2 of Table 4, page 58, since there would be one generation at each age.

Q. How many years of life would be lived each year by this total stationary population?—A. As many as would be lived by any one of the generations during its entire lifetime.

Q. To how many generations do the annual deaths occurring in any age interval belong?—A. To two successive generations.

Q. What proportion of the annual deaths in any age interval belongs to the older generation and what to the younger one?—A. Except for ages under 5 years and very old ages it is found that the annual deaths in any age interval are about equally divided between the two generations. See sections 107 to 109, pages 339 and 340.

#### AGE DISTRIBUTION OF STATIONARY POPULATION.

55. Q. In the stationary populations of the life tables shown in this volume, what are the numbers living in each age interval?—A. These numbers are shown in column 6 of Tables 1 to 74, pages 52 to 199.

Q. How many in the stationary population for males of the original registration states in 1910 are 75 years of age and over?—A. 143,130, or less than one-thirtieth of the whole population, according to column 8 in Table 4, page 59.

Q. How are the stationary populations among white races divided according to age?—A. An examination of the stationary populations, column 8 of Tables 1 to 74, pages 52 to 199 (except Tables 13 to 18, 35, and 36), shows that one-fourth of the stationary population is under 14 to 17 years of age, and most of them have one-fourth of the population under ages 15 and 16; one-half of the population is under ages 28 to 35 years of age, and most of the tables have one-half the population under ages 32 and 33; three-fourths of the population is under ages 46 to 53, generally under ages 51 and 52.

Q. How are the stationary populations among Negroes divided as to age?—A. One-fourth is under 12 to 13 years of age, one-half is under 24 to 28 years of age, and three-fourths is under 40 to 46 years of age. See column 8 of Tables 13 to 18, 35, and 36, pages 76 to 87, 120, and 122.

Q. In what age intervals do the generations and stationary populations generally end?—A. The life tables for white people end in age intervals 101–102 to 107–108, while those for Negroes end in age intervals 103–104 to 109–110.

#### EXPECTATION OF LIFE AT ANY AGE AND POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.

56. Q. How do the totals of stationary populations vary?—A. Just as do the expectations of life at birth, since the expectation of life at birth equals the total

of the stationary population divided by the number of births, or 100,000 in these life tables.

Q. Why does the expectation of life at birth in Tables 1 to 74, pages 52 to 199, equal the total of the stationary population divided by 100,000?—A. Because the total of the stationary population equals the total number of years lived by any one of the generations of 100,000 born alive. See following question and answer.

Q. Why does the total of the stationary population equal the total number of years lived by any one of the generations of 100,000 born alive?—A. According to the fifth question and answer in section 54, the number of years lived by any one of the generations during its whole lifetime equals the number of years lived each year by the stationary population, and this, of course, equals the total of the stationary population.

Q. How many more years to live have the 22,000 survivors at age 78 among white males in the rural part of the original registration states in 1910?—A. In column 8 of Table 32, page 115, it will be seen that they still have 129,257 years to live, or an average of 5.88 years. See value in column 5 opposite age 78 in Table 32.

#### TOTAL WHITE POPULATION AND TOTAL NEGRO POPULATION COMPARED.

57. Q. What total population would eventually be generated and kept constant or stationary as to numbers by 100,000 annual white male living births distributed uniformly throughout each calendar year if the rates of mortality were those shown in column 4 of Table 9 for white males in the original registration states in 1910?—A. Referring to column 8 of this life table, page 68, it appears that the total population would eventually contain 5,023,371 white males.

Q. What total population would eventually be generated and kept constant or stationary as to numbers by 100,000 annual Negro female births distributed uniformly throughout each calendar year if the rates of mortality were those shown in column 4 of Table 18 for Negro females in the original registration states in 1910?—A. Referring to column 8 of this life table, page 86, it appears that the total population would eventually contain 3,766,879 Negro females.

Comparing this with the preceding question, it appears that although the two populations are generated and maintained constant as to numbers by the same number, 100,000, of annual births, the first would eventually exceed the second by 1,256,492 lives, owing to the difference in mortality rates. To put it in another way, the total stationary Negro female population is only about 75 per cent of the total stationary white male population.

#### MEASURE OF VITALITY.

##### MEANING OF MEASURE OF VITALITY.

58. Q. What is the population per death per year in each yearly age interval for males in the original registration states in 1910?—A. These numbers are

shown for yearly age intervals in column 7 of Table 4 on page 58 and by the line ——— in Graph 42 on page 284.

Q. What is the name given to the ratio defined in column 7?—A. The measure of vitality.

Q. At what age is there the greatest chance to live according to this graph for males in the original registration states in 1910?—A. Age 11. See first question and answer in this section.

Q. Does this agree with the rates of mortality for males in the original registration states in 1910 as shown in column 4 of Table 4 on page 58 and in line ——— of Graph 2 on page 244?—A. Yes.

#### RELATION BETWEEN MEASURE OF VITALITY AND RATE OF MORTALITY.

59. Q. How is the measure of vitality related to the rate of mortality at any age?—A. The measure of vitality is almost the reciprocal of the rate of mortality.

Q. How do these two curves compare?—A. Where one is high, the other is low; where one changes rapidly, the other changes slowly. Hence the measure of vitality curve shows on a much larger scale the variations in the rate of mortality between ages 5 and 40.

Q. How do the scales in Diagram A of Graphs 42 to 51 compare with those of Graphs 1 to 11?—A. The horizontal scale is the same and the vertical scale very nearly the same as in Graph 1, which has practically the same scales as Diagram C in Graphs 2 to 11.

#### MAXIMUM VALUES AND IRREGULARITIES.

60. Q. Among the life tables shown in this volume, which stationary population shows the greatest maximum measure of vitality between ages 9 and 13 and which the least?—A. The greatest maximum measure of vitality is found among females in Australia; at age 10 there is one death each year to every 630.89 living. See line ——— of Graph 49, page 291, and column 2 of Table 84, page 222. The least is found among females in India; at age 12 there is one death each year to every 80 living. See line ——— of Graph 49 and column 8 of Table 84.

Q. Do the apparent irregularities in the rate of mortality, Graphs 2 to 11 on pages 244 to 253, mentioned in section 36, page 33, appear in the measure of vitality, Graphs 42 to 51 on pages 284 to 293?—A. Yes. These irregularities generally begin by an apparently rapid decrease from about age 15 to age 20, and then there follows a very decided slowing up of the decrease for the next 10 or 15 years. Sometimes this slowing up is followed by an increase, as in line ——— of Graph 45, page 287, for white males in the rural part of the original registration states, 1910, and in Graph 43 for Negroes, page 285, and for males in Sweden, line ———, and Italy, line ———, of Graph 48, page 290.

Q. What are the highest and lowest maximum values of the measure of vitality among whites in the United States Life Tables, 1901?—A. Graphs 44, 45, and 47 to 50, pages 286, 287, and 289 to 292, and column 7 of the Tables 1 to 74, pages 52 to 199, which are 1901 life tables, show that the highest maximum value for 1901 is 473.24 among females in Michigan, while the lowest is 318.70 among females in Boston.

Q. What are the highest and lowest maximum values of the measure of vitality among whites in the United States Life Tables, 1910?—A. The highest maximum value of the measure of vitality is 555.13 among white females in the rural part of the original registration states, while the lowest, 389.58, is among females in Boston. See Graphs 44, 45, and 47 to 50, pages 286, 287, and 289 to 292, and column 7 of the Tables 1 to 74, pages 52 to 199, which are 1910 life tables.

#### CHANGES IN MAXIMA.

61. Q. Among white people in the United States, which division experienced the greatest change in the maximum value of the measure of vitality between 1901 and 1910 and which experienced the least?—A. Among males in Philadelphia the increase in this maximum value was from 327.93 in 1901 to 413.29 in 1910, or an increase of over 85, while among males in Michigan the increase was from 403.57 in 1901 to 423.42 in 1910, or an increase of less than 20. See column 7 of Tables 71 and 72, pages 192 to 195, and of Tables 47 and 48, pages 144 to 147.

Q. What were the changes in the maximum values of the measure of vitality in Massachusetts between 1890 and 1901 and between 1901 and 1910?—A. From Graph 50 on page 292 it will be noted that the increase in maximum measure of vitality among males between 1890 and 1901, lines ——— and ———, respectively, was about 120, while among females, lines ——— and ———, respectively, it was about 150. Then between 1901 and 1910 the increase was about 50 among males, lines ——— and ———, and about 80 among females, lines ——— and ———.

Q. What is the range of the maximum measure of vitality among Negroes?—A. Graph 43 on page 285 and column 7 of Tables 13 to 18, 35, and 36, pages 76 to 87, and 120 to 123, show that among Negro females in the original registration states the maximum measure of vitality was 199.11 in 1910 and 129.43 in 1901, both at age 9.

Q. What is the lowest maximum measure of vitality among whites in the original registration states?—A. 261.21 among females in Massachusetts in 1890. See column 7 of Tables 7 to 12, 19 to 34, 37 to 74, pages 64 to 75, 88 to 119, and 124 to 199, and Graphs 44 to 47 and 50, pages 286 to 289 and 292.

Q. What was the increase in the maximum measure of vitality between 1901 and 1910 among Negroes?—

A. Diagram A of Graph 43 on page 285 shows that the increase among females was about 70, while that among males was about 39.

#### MONTHLY MEASURE OF VITALITY.

62. Q. In each monthly age interval what was the stationary population per death per month?—A. These numbers appear in column 7 of the infant mortality section of Tables 1 to 36 (except Tables 23 to 26) and Tables 38, 40, 43, 46, 48, 50, 52, 54, 56, and 58; and Diagram D of Graphs 42 to 47, pages 284 to 289, shows measure of vitality by months under 1 year.

Q. In the age interval from birth to 1 month, what was the stationary population per death per month for white females living in the original registration states in 1910?—A. 25.68. See column 7 of Table 12, page 74.

Q. In the age interval 10–11 months, what was the stationary population per death per month for white males in cities in 1901?—A. 137.04. See column 7 of Table 27, page 104.

Q. How does the measure of vitality in the infant mortality section of the life tables for females compare with that for males?—A. It is higher, that is, more favorable for females. See Diagram D of Graphs 42 to 47, pages 284 to 289.

Q. How does the monthly measure of vitality for infants living in the rural part in 1910 compare with that for urban infants?—A. It is higher for the rural infants. See Diagram D of Graph 47, page 289.

Q. How does the monthly measure of vitality for Negro infants in 1910 compare with that for white infants?—A. The measure of vitality for Negro infants is about one-half that for white infants. See Diagram D of Graph 46, page 288.

Q. How does the monthly measure of vitality for 1910 infants compare with that for 1901 infants?—A. It is more favorable for the 1910 infants. See Diagram D of Graphs 42 to 45, pages 284 to 287.

#### DEATH RATE PER THOUSAND.

##### AVERAGE DEATH RATE OF THE TOTAL POPULATION AT BIRTH.

63. Q. What was the average death rate per thousand in the total male population at birth in the original registration states in 1910?—A. 20.06, according to column 9 of Table 4 on page 58.

Q. What was the range of the average death rate of the totals of other stationary populations among white people in the United States?—A. From 17.44 among white females in the rural part of the original registration states in 1910, Table 34 on page 118, to 24.60 among males in New York City in 1901, Table 67 on page 184, according to column 9 of the various life tables.

Q. Which population whose life table is shown in this volume experienced the greatest decrease in

average death rate at birth between 1901 and 1910, and which the least?—A. Males in New York City changed from 24.60 in 1901, column 9 of Table 67 on page 184, to 22.08 in 1910, column 9 of Table 68 on page 186, a decrease of 2.52 per thousand. Males in the city of Chicago changed from 21.59 in 1901, column 9 of Table 63 on page 176, to 21.78 in 1910, column 9 of Table 64 on page 178, an *increase* of 0.19 per thousand!

Q. Which shows the greater change in the average death rate at birth between 1901 and 1910, the states or the cities?—A. The cities. Among Boston males the change was from 24.02 in 1901, Table 59 on page 168, to 21.72 in 1910, Table 60 on page 170, a decrease of 2.30. Among females, Tables 61 and 62 on pages 172 and 174, there was a decrease of 2.26, while in Massachusetts, which experienced a greater change in average annual death rate at birth than any other state, the decrease was 1.44 for males and 1.38 for females. See column 9 of Tables 42, 43, 45, and 46, pages 134, 136, 140, and 142.

Q. How is the average death rate at any age obtained for a stationary population?—A. By dividing one thousand times the number of annual deaths in current and all older age intervals by the total population living in current and all older age intervals; in other words, by dividing one thousand times the numbers in column 2 by the corresponding ones in column 8. See the second question and answer in section 55, page 40, and the last two questions and answers in section 48, page 37.

##### AVERAGE DEATH RATE IN THE ACTUAL POPULATION.

64. Q. What were the average death rates per thousand in the total *actual* populations upon which the three life tables mentioned in the first two questions and answers in section 62 are based?—A. Referring to the heading of Table 4, page 58, for males in the original registration states in 1910, the estimated population as of July 1, 1910, was 12,177,315. Assuming in this calculation that the number of deaths in 1910 was equal to 195,350, the average of the reported deaths for the three years 1909, 1910, and 1911, the ratio of the deaths to the population, multiplied by 1,000, gives 16.04, which is 4.02 per 1,000 less than that of the stationary population of Table 4.

In the same way the average death rate per thousand in the total *actual* population among white females in the rural part of the original registration states in 1910, Table 34 on page 118, was 13.67, or 3.77 less than in the stationary population, and among males in New York City in 1901, Table 67 on page 184, was 21.18, or 3.42 less than that in the stationary population.

Q. Why does the average annual death rate computed on the actual population and deaths differ from that computed on the population and deaths in the hypothetical stationary population?—A. The rate of mortality at each age is the same in both populations,



but the *distribution of the population in the age intervals* may differ materially. For example, in the actual population there may be an excess of young people, the effect of which would be to decrease the average annual death rate in the total population.

**COMPARISON OF DEATH RATES IN ACTUAL WITH THOSE IN STATIONARY POPULATION.**

65. Q. If two different communities were subject to exactly the same rate of mortality at each age, would the average death rate in the respective stationary populations be the same at each age?—A. Yes, because the average death rates in column 9 are derived from the rates of mortality in column 4. The question is equivalent to the following: If column 4 of the life table for community A were the same as column 4 of the life table for another community B, would column 9 of the life table for community A be the same as column 9 of the life table for community B? The answer is yes.

Q. If two different communities were subject to exactly the same rates of mortality at each age, would the average death rate derived by computing the ratio of the respective reported deaths to enumerated populations be the same for the two communities?—A. Not necessarily, because the distribution of the population in the age intervals might differ greatly. For example, there might be a preponderance of young men in one community and of old men in the other. A large influx by immigration of young men in a community would tend to lower temporarily the average death rate in the total population when computed on the enumerated population and reported deaths. The question is equivalent to the following: If column 4 of the life table for community A were the same as column 4 of the life table for community B, would the computed average death rates be the same in communities A and B if taken directly as the ratio of reported deaths to enumerated populations? The answer is no, not necessarily.

Q. Are there any life tables in this volume whose *stationary* populations have a lower average death rate than the *actual* populations?—A. No.

Q. Was the death rate per thousand of the total *actual* population as much below that of the *stationary* population in 1901 as in 1910?—A. It was lower.

Q. What does this signify?—A. According to the last question and answer in section 62 and to section 63, it would seem that the populations are gradually growing older and are thus approaching the distribution of their stationary populations.

**AVERAGE DEATH RATE FOR SECTIONS OF THE STATIONARY POPULATION.**

66. Q. What is the average death rate per thousand in that portion of the stationary white male population of the original registration states in 1910 between ages 20 and 40?—A. Referring to columns 2 and 8 of Table 9 on page 68 and to the method of making this

calculation explained in section 26 on page 29, the result is:

$$1000 \cdot \frac{(l_{20} - l_{40})}{(T_{20} - T_{40})} = 1000 \cdot \frac{79116 - 68848}{3378969 - 1888606} \\ = \frac{10268000}{1490363} = 6.89.$$

Q. What is the average death rate per thousand in that portion of the stationary Negro female population of the original registration states, 1910, between ages 20 and 40?—A. Referring to columns 2 and 8 of Table 18 on page 86 and to the method of making this calculation explained in section 26 on page 29, the result is:

$$1000 \cdot \frac{(l_{20} - l_{40})}{(T_{20} - T_{40})} = 1000 \cdot \frac{64764 - 50568}{2340453 - 1180253} \\ = \frac{14196000}{1160200} = 12.24.$$

**VARIATION OF AVERAGE DEATH RATE WITH EXPECTATION OF LIFE.**

67. Q. At what age is the average death rate per thousand in a stationary population the lowest?—A. Between ages 2 and 3.

Q. How does this agree with the greatest expectation of life?—A. It agrees exactly. See first and third questions and answers in section 50, page 38.

Q. What relation does the average death rate per thousand bear to the expectation of life at any age?—A. According to section 21 the expectation of life at any age is obtained by dividing the number in column 8 by that in column 2 at that age, while according to section 25 the average death rate per thousand is found by dividing the number in column 2 by the corresponding one in column 8 and multiplying by 1,000. Hence the average death rate per thousand at any age is 1,000 times the reciprocal of the expectation of life at that age.

**CHANGE IN AVERAGE DEATH RATE WITH AGE.**

68. Q. In what other age interval is the average death rate the same as that of the total population or that at birth?—A. Among white people between ages 8 and 17, generally between ages 10 and 12. Among Negroes between ages 17 and 29. See column 9 of Tables 1 to 74, pages 52 to 199 (except Tables 23 to 26), and Graphs 32 to 40, showing the expectation of life, pages 274 to 282. See also section 67.

Q. In what age interval is the average death rate double that of the total population?—A. In Massachusetts, 1890, this occurs in age interval 49–50, but with this exception, among white races this age interval ranges from 41 to 47, the predominating ages being 43 to 45. See Tables 41 and 44, pages 132 and 138, and the tables and graphs mentioned in preceding question and answer. Among Negroes it ranges from 47 to 54. See Tables 13 to 18, 35, and 36, pages 76 to 87 and 120 to 123.

Q. In what age interval is the average death rate three times that of the total population?—A. In Massachusetts, 1890, this occurs in age interval 61–62, but with this exception, among white races this age interval ranges from 54 to 59 and among Negroes from 60 to 65. See column 9 of the tables mentioned in preceding question and answer.

Q. In what age interval is the average death rate ten times that of total population?—A. Among white races this age interval ranges from 78 to 84, with 79 to 82 the predominating ages. Among Negroes this age interval ranges from 89 to 96, and in India it occurs at 83–84. Compare with last question and answer in section 41. See column 9 of tables mentioned in preceding questions and answers.

#### LIFE TABLES OF FOREIGN COUNTRIES.

##### COUNTRIES, PERIODS, GRAPHS, AND FUNCTIONS SHOWN.

69. Q. For what foreign countries are life tables given?—A. For Australia, Denmark, England, France, Germany, Holland, India, Italy, Japan, Norway, Sweden, and Switzerland. See Tables 75 to 84, pages 204 to 223.

Q. Are the life tables of all these countries represented by graphs in this volume?—A. No, only Australia, England, Germany, India, Italy, and Sweden. See Graphs 8, 18, 28, 38, and 48 for males, pages 250, 260, 270, 280, and 290, and Graphs 9, 19, 29, 39, and 49 for females, pages 251, 261, 271, 281, and 291.

Q. For what periods are the foreign life tables calculated?—A. Denmark, for 1906–1910; France and Japan, for 1898–1903; Holland, for 1900–1909; and the others for 1901–1910.

Q. What mortality functions are shown for these 12 foreign countries?—A. The rate of mortality per thousand, number of survivors, number of deaths, complete expectation of life, and measure of vitality. See Tables 75 to 84, pages 204 to 223.

##### RATE OF MORTALITY IN FOREIGN COUNTRIES.

70. Q. What is the lowest rate of mortality in any of these countries?—A. For males, 1.77 per thousand at ages 11 and 12 in Denmark; and for females, 1.59 per thousand at age 10 in Australia. See column 3 of Table 75, page 204, and column 2 of Table 76, page 206.

Q. Which of these countries shows the lowest rate of mortality at birth?—A. Norway, the rate of mortality being 81.45 for males and 66.79 for females. See column 11 of Tables 75 and 76, pages 204 and 206.

Q. How do these rates compare with those in this country?—A. The rate of mortality per thousand at birth for white males in the original registration states for 1901–1910 was 127.38, and the rate for white females was 105.51. See column 14 of Tables 75 and 76, pages 204 and 206.

Q. What is the rate of mortality per thousand at birth among males and females in Japan?—A. 156.86

for males and 140.92 for females. See column 10 of Tables 75 and 76, pages 204 and 206.

Q. Which country shows the most favorable rate of mortality for males at age 50?—A. Norway, the rate being 11.11. See column 11 of Table 75, page 205.

Q. Which country shows the most favorable rate of mortality for females at age 50?—A. Denmark, the rate being 8.97. See column 3 of Table 76, page 207.

Q. Which country after India shows the least favorable rate of mortality from ages 17 to 29 among males?—A. Norway. See Table 75, column 11, page 204.

Q. How do the mortality rates in this country among white males and females in the original registration states compare with those in other countries from age 30 to age 50?—A. Except for France, India, and Japan, they are for the most part less favorable in this country. See Tables 75 and 76, pages 204 and 206.

##### NUMBER OF SURVIVORS OUT OF 100,000 BORN ALIVE.

71. Q. Which country shows the greatest number of survivors at age 21 out of 100,000 births?—A. Australia, with 84,180 males and 86,175 females. See column 2 of Tables 77 and 78, pages 208 and 210.

Q. Which country shows the smallest number of survivors at age 21 out of 100,000 births?—A. India, with 43,091 males and 44,067 females. See column 8 of Tables 77 and 78, pages 208 to 211.

Q. Which country shows the greatest number of survivors at age 70?—A. Norway for males, with 41,911, and Denmark for females, with 47,405 survivors. See column 11 of Table 77 and column 3 of Table 78, pages 208 and 210.

##### NUMBER OF DEATHS OUT OF 100,000 BORN ALIVE.

72. Q. What is the distribution of deaths during the first five years among 100,000 males born alive in Germany?—A. 20,234 under 1 year, 3,181 in the second year of life, 1,143 in the third, 715 in the fourth, and 516 in the fifth. See column 6 of Table 79, page 212.

Q. What are the corresponding figures for Switzerland?—A. 13,840 under 1 year, 1,894 in the second year of life, 824 in the third, 544 in the fourth, and 429 in the fifth. See column 13 of Table 79, page 212.

Q. What country shows the smallest number of deaths during the first year of life in a generation of 100,000 born alive?—A. Norway. Column 11 of Tables 79 and 80, pages 212 and 214, shows that the number of deaths in Norway under 1 year of age among males is 8,145 and among females 6,679.

Q. Is there any country in which more than one-fourth of the children born fail to live 1 year?—A. Yes; in India 28,998 males and 28,460 females die under 1 year of age out of 100,000 of each sex born alive. See column 8 of Tables 79 and 80, pages 212 and 214.

Q. After the first year of life what country shows the smallest number of deaths up to age 9?—A. Denmark, closely followed by Australia. See columns 2 and 3 of Tables 79 and 80, pages 212 and 214.

Q. What country shows the lowest number of deaths during any year of life?—A. Australia, with 140 deaths among females aged 10. See column 2 of Table 80, page 214.

Q. After the second year of life, at what age does the maximum number of deaths occur in a generation of 100,000 born alive among males in France?—A. At age 74, with a maximum of 1,959 deaths. See column 5 of Table 79, page 213.

Q. Between what ages does this maximum number of deaths usually occur?—A. Except for India, between ages 70 and 78 for males and 73 and 77 for females. For India, after age 8, maxima occur at ages 38 and 39, respectively. See Tables 79 and 80, pages 212 and 214.

Q. What country shows the greatest number of deaths out of 100,000 born alive among males aged 20 and 21?—A. Norway; the number of deaths among males aged 20 and 21 in Norway exceeds even that in India.

#### EXPECTATION OF LIFE IN FOREIGN COUNTRIES.

73. Q. What is the maximum expectation of life shown by these tables?—A. For females, 63.20 at ages 1 and 2 in Denmark, and for males, 61.50 at ages 1 and 2 in Denmark. See column 3 of Tables 81 and 82, pages 216 and 218.

Q. What countries show the highest and lowest expectation of life at birth?—A. Australia the highest, 55.20 for males and 58.84 for females; India the lowest, 22.59 for males and 23.31 for females. See columns 2 and 8 of Tables 81 and 82, pages 216 and 218.

Q. What country shows the most favorable expectation of life from about ages 27 and 28 to extreme old age?—A. Norway. See column 11 of Tables 81 and 82, pages 216 and 218.

Q. Do any of the countries show a lower expectation of life for females than for males at the same age?—A. No. See Tables 81 and 82, pages 216 and 218.

#### MEASURE OF VITALITY IN FOREIGN COUNTRIES.

74. Q. At what age is the maximum population per death per year among males in Holland?—A. At age 12, when the population is 496.39 per death per year. See column 7 of Table 83, page 220.

Q. What is the maximum value of the measure of vitality among males in Italy?—A. 457.71 at age 9. See column 9 of Table 83, page 220.

Q. At what age is the measure of vitality among females in England nearest 200?—A. At age 31. See column 4 of Table 84, page 222.

Q. At what age is there one death per annum to each 100 males living in Japan?—A. Age 39. See column 10 in Table 83, page 220.

Q. At what age is there one death per year to each 50 in the female population of the countries shown in Table 84, page 222?—A. Norway and Sweden, between ages 62–63; Denmark, between ages 61–62; Australia, between ages 60–61; Holland, between ages 59–60; Italy, between ages 58–59; France and Germany, between ages 57–58; England, Japan, Switzerland, and the United States, between ages 56–57; India, between ages 24–25.

Q. Which country has the highest measure of vitality and at what age does it occur?—A. Australia, where one death occurs each year to every 630.89 in the female population aged 10. See column 2 of Table 84, page 222. Compare with the first question and answer in section 70, page 44.

#### MORTALITY TABLES OF INSURANCE COMPANIES.

##### TABLES SHOWN AND WHERE THEY ARE USED.

75. Q. What mortality tables derived from the experience of life insurance companies appear in this volume?—A. American Experience, Thirty American Offices, American-Canadian Mortality Investigation, British Offices 1863–1893, Four French Offices, Twenty-three German Offices, Three Japanese Offices, Seventeen Swedish Offices, National Fraternal Congress, and Standard Industrial. See section 90, page 224, and Tables 85 to 91, pages 226 to 239.

Q. What table is employed by most insurance companies in this country to calculate premiums and reserves?—A. The American Experience Mortality Table. See column 2 of Tables 85 to 91, pages 226 to 239.

Q. What table is employed by French insurance companies?—A. The Four French Offices Mortality Experience. See column 6 of Tables 85 to 91, pages 226 to 239.

Q. What table is employed by many fraternal societies in this country?—A. The National Fraternal Congress Table of Mortality. See column 10 of Tables 85 to 91, pages 226 to 239.

Q. What table is employed by most industrial insurance companies in this country?—A. The Standard Industrial Mortality Table. See column 11 of Tables 85 to 91, pages 226 to 239.

Q. What is the most recent mortality investigation among insured lives in this country?—A. The American-Canadian Mortality Investigation; it is based on the experience of insurance companies in this country and Canada on insured lives during the period 1900–1915. See column 4 of Tables 85 to 91, pages 226 to 239.

Q. What is the most recent investigation among insured lives in Great Britain?—A. The British Offices Life Tables, based on the experience of insurance companies in England and Scotland on insured lives during the period 1863–1893. See column 5 of Tables 85 to 91, pages 226 to 239.

## DISTINCTION BETWEEN INSURANCE AND CENSUS TABLES.

76. Q. What is the chief difference between mortality tables derived from the experience of life insurance companies and those derived from census statistics?—A. The former include a larger proportion of healthy lives, because applicants for insurance are subjected to a medical examination before they are accepted as risks by the insurance companies. In the latter case no such distinction is made.

Q. What is the effect upon the rates of mortality derived by excluding those insured lives which had passed a medical examination within five years?—A. The effect is to increase the rates of mortality.

## GRAPHS OF INSURANCE MORTALITY TABLES.

77. Q. What insurance mortality tables are represented by graphs in this volume?—A. American Experience, line -----; American-Canadian Mortality Investigation, AM<sup>(s)</sup>, line .....; National Fraternal Congress, line ———; British Offices, O<sup>(s)</sup>, line -----; and Three Japanese Offices, J<sup>(s)</sup>, line ———, in Graphs 11, 21, 31, 41, and 51 on pages 253, 263, 273, 283, and 293. The graph of the life table for white males in the original registration states, 1910, line ———, is also shown.

Q. What is the meaning of the letter M and the superscripts <sup>M</sup> and <sup>(s)</sup> in the symbolic designation of the American-Canadian, British Offices, and Japanese Offices Tables?—A. M and <sup>M</sup> mean that the table is based on male lives and the superscript <sup>(s)</sup> means that in deriving these tables all insured lives which had been insured less than five years were excluded from consideration.

Q. What mortality functions based on the experience of insurance companies are graphically represented?—A. The rate of mortality per thousand, the number of survivors out of 79,116 living at age 20, the number of deaths out of 79,116 living at age 20, the expectation of life, and the measure of vitality. See Graphs 11, 21, 31, 41, and 51, pages 253, 263, 273, 283, and 293.

Q. Why are the number of survivors and the number of deaths out of 79,116 living at age 20 instead of out of 100,000 born alive used in the insurance mortality tables?—A. See second question and answer in section 79, page 46, and section 91, page 225.

## RATES OF MORTALITY AMONG INSURED LIVES.

78. Q. How do the rates of mortality in the Three Japanese Offices Life Tables compare with those in insurance tables of other countries?—A. For most ages the rates are considerably higher. See column 8 of Table 85, page 226, and line ——— in Graph 11, page 253.

Q. Does the irregularity mentioned in section 36, page 33, appear in the rates of mortality among the insured?—A. Yes. See columns 6, 7, and 8 of Table 85,

page 226. Among French insured there is a maximum of 6.92 per thousand at age 21, this rate being higher than any of the others between ages 5 and 30. Among German insured there is a maximum of 9.34 per thousand at age 19, and this rate is not reached again until between ages 32 and 33. Among Japanese insured there is a maximum of 12.15 per thousand at age 21; the rates do not rise to this point again until between ages 42 and 43.

Q. Among the insured lives in Table 85, page 226, which show the most favorable rates of mortality?—A. Seventeen Swedish Offices, from age 15 to age 33; American-Canadian, from age 34 to age 49; National Fraternal Congress, from age 50 to age 77; Thirty American Offices, from age 78 to age 81; and United States, white males in original registration states, from age 83 to age 100, the American-Canadian having the lowest rate at age 82.

Q. Among the *graphs* for insured lives, which one shows the most favorable rates of mortality?—A. American-Canadian, line ———, in Graph 11 on page 253. This curve is below all the others from age 15 to about age 50. From age 50 to about age 80 it rises slightly above National Fraternal Congress, line ———, after which it is again lower than all the other curves for insured lives up to age 100.

Q. How do the rates of the American Experience Table between ages 15 and 40 compare with those of the other tables?—A. They are higher, except for the Twenty-three German Offices, the Three Japanese Offices between ages 15 and 30, and the Standard Industrial Tables between ages 15 and 22. See Table 85, page 226.

## NUMBER OF SURVIVORS AMONG INSURED LIVES.

79. Q. What does the graph of survivors among insured lives show?—A. It shows the number of survivors by the various tables at each age out of 79,116 alive at age 20. See Graph 21, page 263.

Q. Why was the number of survivors chosen as 79,116 at age 20?—A. The various mortality tables for insured lives, unlike life tables, usually begin at ages 10, 15, or 20. In order to compare the survivors at each age it is necessary to begin with the same number at a common age. The lowest age common to all these tables was 20, and 79,116 was chosen as the common number of lives at age 20 because this is the number of survivors at this age in the life table for white males in the original registration states, 1910.

Q. Are the original tables, showing the number of survivors among insured lives, given?—A. Yes, they appear in Table 90 on page 236.

Q. Are tables given showing the number of survivors among insured lives out of 79,116 living at age 20?—A. Yes, these figures are given in Table 86 on page 228.

Q. At what ages are the numbers of survivors among insured lives and white males in the original registration states in Table 86, page 229, reduced to 50,000?—

A. Standard Industrial, between ages 52-53; Three Japanese Offices, between ages 54-55; Twenty-three German Offices, between ages 55-56; Four French Offices, between ages 58-59; American Experience, British Offices, and United States, white males in the original registration states, 1910, between ages 59-60; Thirty American Offices, between ages 60-61; American-Canadian, Seventeen Swedish Offices, and National Fraternal Congress, between ages 63-64. Compare with Graph 21 on page 263.

#### NUMBER DYING AMONG INSURED LIVES.

80. Q. What table in the *graphs* for insured lives shows the smallest number of deaths between ages 15 and 50?—A. The American-Canadian, line -----, in Graph 31, page 273.

Q. What table among insured lives has a smaller number of deaths than the American-Canadian from age 15 to age 32?—A. The Seventeen Swedish Offices Table. See columns 4 and 9 of Table 87, page 230.

Q. Between what ages does the maximum number of deaths after age 5 occur?—A. Between ages 70 and 76, except among Japanese insured. See Table 87, page 231.

Q. What peculiarity does the Japanese table for insured lives exhibit in the *graph* of number of deaths?—A. The Japanese table shows three maxima at ages 21, 63, and 72, while each of the other tables shows only one maximum point on this curve. See column 8 of Table 87, page 230, and line ----- in Graph 31, page 273.

Q. Are the original tables, showing the number of deaths among insured lives, given?—A. Yes; they appear in Table 91 on page 238.

#### EXPECTATION OF LIFE AMONG INSURED LIVES.

81. Q. What table among the insured lives in Graph 41, page 283, shows the lowest expectation of life?—A. The Three Japanese Offices Table, line -----.

Q. What tables in Graph 41, page 283, show the most favorable expectation of life?—A. The American-Canadian, line -----, and the National Fraternal Congress, line -----.

Q. How do the expectations of life in the American Experience and British Offices  $O^{(5)}$  Tables compare?—A. Lines ----- and -----, respectively, in Graph 41, page 283, are very close together for almost the entire range of life and lie between the American-Canadian, line -----, and the Three Japanese Offices Tables, line -----, between ages 10 and 60.

Q. What is the expectation of life at age 2 by the Standard Industrial Mortality Table?—A. 48.83. See column 11 of Table 88, page 232.

Q. Between what limits in the insurance tables does the expectation of life at age 35 lie?—A. Between about 27 and 34 years. See Table 88, page 232.

Q. What is the expectation of life among insured lives at age 70?—A. Between about 7 and 9 years. See Table 88, page 233.

Q. Which table among insured lives has the highest expectation of life at age 20, and which has the lowest?—A. American-Canadian, in column 4 of Table 88, has an expectation of life at age 20 of 45.93, which is slightly higher than that for the National Fraternal Congress, column 10, and the Seventeen Swedish Offices in column 9. The expectation of life at age 20 in the Standard Industrial Mortality Table, column 11, is 37.50, which is the lowest.

#### MEASURE OF VITALITY AMONG INSURED LIVES.

82. Q. Which of the tables for insured lives shows the lowest measure of vitality after age 30?—A. The Standard Industrial Mortality Table up to age 70, after which the Three Japanese Offices shows the lowest measure of vitality up to age 88. See columns 8 and 11 in Table 89, page 234.

Q. How does the measure of vitality for the British Offices  $O^{(5)}$  Table compare with that for the American Experience Table?—A. Line ----- in Graph 51, page 293, is higher than that for the American Experience Table, line -----, from age 10 to age 40, and lower from age 41 to age 70, after which they practically coincide.

Q. Which table for the insured shows the highest measure of vitality between ages 15 and 33?—A. The Seventeen Swedish Offices Table. See column 9 of Table 89, page 234.

Q. Which table shows the next highest measure of vitality from ages 15 to 33?—A. The American-Canadian. See column 4 of Table 89, page 234, and line ----- in Graph 51, page 293.

Q. Does the irregularity mentioned in the second question and answer in section 59, page 41, appear in the graphs for measure of vitality of insured lives?—A. Yes; it is most pronounced in the Three Japanese Offices Table, line -----, and the American-Canadian Mortality Investigation, line -----, in Graph 51 on page 293.

#### PARTS V TO VIII.

##### LIFE ANNUITIES, PREMIUMS, AND COMMUTATION COLUMNS.

83. Q. For what United States life tables are values of life annuities given in this volume?—A. For white *males* in the original registration states, 1910, and white *females* in the original registration states, 1910. See Tables 92 and 99, respectively, pages 298 and 312.

Q. At what rates of interest are these annuities calculated?—A. 3,  $3\frac{1}{2}$ , 4, 5, and 6 per cent.

Q. What are the payments of these annuities, when are they made, and how long do they continue?—A. The payments are \$1 a year, payable at the *beginning* of each age interval, and continue throughout life.

Q. What is the designation of an annuity of this kind and what is its symbol?—A. It is called a life annuity due, and its symbol is  $a_x$ . See Tables 92 and 99, pages 298 and 312.



Q. What is the present value at 4 per cent of a life annuity of \$100 per annum to a white male now aged 21, first payment to be made at once?—A. Referring to the 4 per cent column at age 21 in Table 92 on page 298, it appears that the present value of a similar annuity of \$1 a year is \$19.7245. Therefore, by proportion, the present value of an annuity of \$100 per annum is \$1,972.45.

Q. What is the present value of a similar annuity to a white female aged 21?—A. Turning to Table 99 on page 312 and referring to age 21 under the 4 per cent column, it is seen that the value of a life annuity of \$100 per annum, first payment to be made at once, is \$2,018.60.

Q. What is the present value at 6 per cent of a life annuity of \$1,000 to a white man now aged 70, first payment to be made after a year when he is 71?—A. Consulting Table 92 on page 299 in the age 70 row and the 6 per cent column, it is seen that the value of the annuity, if the first payment were made at once, would be \$6,821.20. Deducting \$1,000, since the first payment is not made at once, the present value of the required annuity is found to be \$5,821.20.

Q. What is the value of a similar life annuity to a white woman aged 70?—A. \$6,113.40. See Table 99, page 313.

Q. What tables of net premiums are shown in this volume?—A. Tables of single net premiums and annual net premiums at each age for a whole life insurance of \$1,000. Net premiums are calculated at 3, 3½, and 4 per cent, those for white males in the original registration states, 1910, being given in Table 93 on pages 300 and 301, and those for white females in the original registration states, 1910, in Table 100 on pages 314 and 315.

Q. What commutation columns appear in this volume?—A. Commutation columns for the functions  $D_x$ ,  $N_x$ ,  $S_x$ ,  $C_x$ ,  $M_x$ , and  $R_x$  are given for 3, 3½, 4, 5, and 6 per cent. Those for white males are given in Tables 94 to 98, pages 302 to 311, and those for white females in Tables 101 to 105, pages 316 to 325.

Q. Upon what life tables are these commutation columns based?—A. Those in Tables 94 to 98, pages 302 to 311, are based upon the life table for white males in the original registration states, 1910, and those in Tables 101 to 105, pages 316 to 325, on the life table for white females in the original registration states, 1910.

Q. What is the purpose of these commutation columns?—A. They are to assist the actuary in making calculations based upon life contingencies in ac-

cordance with mortality experience among white males and white females in this country.

#### MATHEMATICAL THEORY OF CONSTRUCTION OF LIFE TABLES.

84. Q. Are the mathematical formulas used in the construction of the United States Life Tables explained in this text?—A. Yes, they are explained and demonstrated in Part VI, pages 327 to 365.

Q. Were the same formulas applied to construct the life tables for the entire range of life?—A. No; there were three main divisions in each life table to which different formulas and processes were applied. See section 95, page 329.

Q. What were these divisions?—A. The first division includes the early years of life, ranging from birth to about age 5; the second or middle division runs from about age 5 to about age 85; the third division from about age 85 to age 115.

Q. In the construction of these life tables was any assumption made as to the age limit of human life?—A. Yes, the age limit of human life was assumed to be 116 years.

Q. What formulas were applied to calculate the rates of mortality for the early years of life?—A. These formulas are explained and demonstrated in sections 106 to 112 on pages 338 to 343.

Q. What formulas were applied to obtain the rates for the middle range of life?—A. The osculatory fifth difference formula was employed for this range; the formulas and methods are given in sections 113 to 116 on pages 344 to 347.

Q. What formulas were employed in constructing the rates at the older ages?—A. A modification of Wittstein's formula and Spencer's 21-term formula; they are explained in sections 117 to 122, pages 348 to 350.

Q. Were these the only formulas employed?—A. No; many other formulas and processes were devised to meet the varying problems presented in the reduction of the original statistics. The details are fully described in Part VI.

Q. Is Part VI of the text designed for the average reader?—A. No; it is written for the information of actuaries and mathematicians.

#### DESCRIPTION OF CALCULATION OF ONE LIFE TABLE AND TABULAR OUTLINE FOR CONSTRUCTION OF EACH LIFE TABLE.

85. Q. Of what does Part VII in this text consist?—A. It consists of a detailed description of the actual processes used in the calculation of the life table for

males in the state of New York, 1910, accompanied by photographs of graphs, diagrams, and adding machine tapes used in connection with the numerical computations, and followed by a tabular outline of the extra information needed to construct each of the life tables.

Q. What is the purpose of this section of the text?—

A. It is intended to guide and assist students and others who desire to reproduce these life tables from the original statistics or to construct other life tables in a similar manner.

Q. What plan has been adopted in the explanation in Part VII?—A. The construction of the entire life table has been broken up into natural divisions. Each of these divisions is given a section number in the descriptive text on pages 369 to 414, and the photograph of the corresponding numerical computation is given a tape number which is the same as the number of the section in the text in which the computation is described. The tape is referred to in the text by this number, and the corresponding section of the text is readily located from the tape number at the head of the computation. The photographs are interleaved with the descriptive text in such manner as to bring each tape and its corresponding section as near together as possible.

Q. Is there a description of the construction of any other life table in the text?—A. No; but Table 135 on pages 416 to 419 gives the extra information needed to construct each of the United States Life Tables in addition to that already given in the description of the calculation of one life table.

#### THE ORIGINAL STATISTICS.

86. Q. Are the original statistics upon which the United States Life Tables are based given?—A. Yes, they are given in Part VIII, pages 421 to 476.

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Q. Of what do the original statistics consist?—A. Enumerated populations, estimates of populations, reported deaths, and birth registration statistics.

Q. In what form are they presented?—A. All the original statistics used in the construction of an individual life table are brought together on a single page. In some cases the original statistics for two or more life tables are given on one page.

Q. Are the original statistics for all the life tables uniform in character?—A. No, they are not. There are seven types, which are described in section 275, page 423.

Q. Were the registered births used in the construction of all the life tables?—A. No, only for twelve tables, Massachusetts and Boston for 1901 and 1910 and the cities of New York and Philadelphia for 1910.

Q. How was the number of births obtained for each of the other life tables?—A. The number of births was computed from the populations and deaths under 5 years. Table 136, page 425, shows the computed number of births, the number of births registered, and the difference between the two.

Q. Why was the computed number of births used instead of the number of births registered?—A. Because the birth registration statistics were too unreliable in most cases; the numbers were usually much too small.

Q. Are the reported deaths under age 5 given which were used in determining the number of births?—A. Yes, at the bottom of each page of the original statistics upon which the life tables are based, except where the registered births were used in determining the rates of mortality.

Q. Is the process of deriving the number of births from population and death statistics shown?—A. Yes, in sections 137 to 142, pages 370 and 371, and in the tapes to which they refer.



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## PART II

UNITED STATES LIFE TABLES: 1890, 1901, 1910, AND 1901-1910

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TABLE 1

## LIFE TABLE FOR BOTH SEXES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (20,408,867), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE INTERVAL.                              | OF 100,000 PERSONS BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Persons were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                  | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                    | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            |         |       | Monthly rate. | In years. |       | Per month. |           | Annual rate. |
| 0-1                                                                | 100 000 | 4 106 | 41.06         | 19.24     | 8 077 | 23.61      | 4 924 000 | 20.31        |
| 1-2                                                                | 95 891  | 1 126 | 11.75         | 51.26     | 7 914 | 84.72      | 4 915 923 | 19.51        |
| 2-3                                                                | 91 768  | 1 035 | 10.91         | 51.79     | 7 854 | 91.08      | 4 907 979 | 19.31        |
| 3-4                                                                | 93 733  | 954   | 10.18         | 52.28     | 7 771 | 97.80      | 4 900 125 | 19.13        |
| 4-5                                                                | 92 779  | 878   | 9.47          | 52.73     | 7 695 | 105.12     | 4 892 354 | 18.96        |
| 5-6                                                                | 91 901  | 807   | 8.78          | 53.15     | 7 625 | 113.40     | 4 884 659 | 18.81        |
| 6-7                                                                | 91 094  | 738   | 8.10          | 53.54     | 7 560 | 122.88     | 4 877 034 | 18.68        |
| 7-8                                                                | 90 356  | 670   | 7.42          | 53.89     | 7 502 | 134.40     | 4 869 471 | 18.56        |
| 8-9                                                                | 89 686  | 608   | 6.78          | 54.21     | 7 448 | 147.00     | 4 861 972 | 18.45        |
| 9-10                                                               | 89 078  | 552   | 6.20          | 54.50     | 7 400 | 160.92     | 4 854 524 | 18.35        |
| 10-11                                                              | 88 526  | 503   | 5.69          | 54.75     | 7 356 | 175.44     | 4 847 124 | 18.26        |
| 11-12                                                              | 88 023  | 471   | 5.34          | 54.98     | 7 316 | 186.36     | 4 839 768 | 18.19        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 12 448 | 124.48       | 49.24     | 91 548 | 7.35      | 4 924 000 | 20.31        |
| 1-2                                                              | 87 552  | 2 935  | 33.52        | 55.20     | 85 821 | 29.24     | 4 832 452 | 18.12        |
| 2-3                                                              | 84 617  | 1 325  | 15.67        | 56.10     | 83 915 | 63.33     | 4 746 631 | 17.83        |
| 3-4                                                              | 83 292  | 816    | 10.16        | 55.98     | 82 852 | 97.93     | 4 662 716 | 17.86        |
| 4-5                                                              | 82 446  | 612    | 7.79         | 55.55     | 82 112 | 127.90    | 4 579 861 | 18.00        |
| 5-6                                                              | 81 804  | 496    | 6.05         | 54.98     | 81 556 | 164.43    | 4 497 752 | 18.19        |
| 6-7                                                              | 81 308  | 406    | 5.00         | 54.31     | 81 105 | 199.77    | 4 416 196 | 18.41        |
| 7-8                                                              | 80 902  | 331    | 4.13         | 53.58     | 80 735 | 241.72    | 4 335 091 | 18.66        |
| 8-9                                                              | 80 568  | 278    | 3.45         | 52.80     | 80 429 | 289.31    | 4 254 356 | 18.94        |
| 9-10                                                             | 80 290  | 238    | 2.97         | 51.99     | 80 171 | 336.85    | 4 173 927 | 19.23        |
| 10-11                                                            | 80 052  | 214    | 2.67         | 51.14     | 79 915 | 373.57    | 4 093 756 | 19.55        |
| 11-12                                                            | 79 838  | 201    | 2.56         | 50.27     | 79 736 | 390.86    | 4 013 811 | 19.89        |
| 12-13                                                            | 79 634  | 207    | 2.59         | 49.40     | 79 530 | 384.20    | 3 934 075 | 20.21        |
| 13-14                                                            | 79 427  | 220    | 2.77         | 48.53     | 79 317 | 360.53    | 3 854 545 | 20.61        |
| 14-15                                                            | 79 207  | 241    | 3.07         | 47.66     | 79 085 | 324.12    | 3 775 228 | 20.98        |
| 15-16                                                            | 78 963  | 274    | 3.47         | 46.81     | 78 826 | 287.69    | 3 696 143 | 21.36        |
| 16-17                                                            | 78 689  | 309    | 3.93         | 45.97     | 78 534 | 254.16    | 3 617 317 | 21.75        |
| 17-18                                                            | 78 380  | 345    | 4.39         | 45.15     | 78 208 | 226.69    | 3 538 783 | 22.15        |
| 18-19                                                            | 78 035  | 379    | 4.86         | 44.35     | 77 846 | 205.40    | 3 460 575 | 22.55        |
| 19-20                                                            | 77 656  | 417    | 5.36         | 43.56     | 77 448 | 185.73    | 3 382 729 | 22.96        |
| 20-21                                                            | 77 239  | 451    | 5.89         | 42.79     | 77 012 | 169.63    | 3 305 281 | 23.37        |
| 21-22                                                            | 76 785  | 485    | 6.31         | 42.04     | 76 542 | 157.82    | 3 228 269 | 23.79        |
| 22-23                                                            | 76 300  | 502    | 6.58         | 41.31     | 76 049 | 151.49    | 3 151 727 | 24.21        |
| 23-24                                                            | 75 798  | 511    | 6.74         | 40.58     | 75 543 | 147.83    | 3 075 678 | 24.64        |
| 24-25                                                            | 75 287  | 519    | 6.90         | 39.85     | 75 028 | 144.56    | 3 000 135 | 25.09        |
| 25-26                                                            | 74 768  | 527    | 7.05         | 39.12     | 74 504 | 141.37    | 2 925 107 | 25.56        |
| 26-27                                                            | 74 241  | 535    | 7.20         | 38.40     | 73 974 | 138.27    | 2 850 603 | 26.01        |
| 27-28                                                            | 73 706  | 543    | 7.38         | 37.67     | 73 434 | 135.24    | 2 776 629 | 26.55        |
| 28-29                                                            | 73 163  | 555    | 7.58         | 36.95     | 72 885 | 131.32    | 2 703 195 | 27.06        |
| 29-30                                                            | 72 608  | 565    | 7.78         | 36.23     | 72 326 | 128.01    | 2 630 310 | 27.60        |
| 30-31                                                            | 72 043  | 574    | 7.97         | 35.51     | 71 756 | 125.01    | 2 557 984 | 28.16        |
| 31-32                                                            | 71 469  | 584    | 8.18         | 34.79     | 71 177 | 121.88    | 2 486 228 | 28.74        |
| 32-33                                                            | 70 885  | 594    | 8.38         | 34.07     | 70 588 | 118.84    | 2 415 051 | 29.35        |
| 33-34                                                            | 70 291  | 602    | 8.57         | 33.35     | 69 990 | 116.26    | 2 344 463 | 29.99        |
| 34-35                                                            | 69 689  | 611    | 8.77         | 32.64     | 69 383 | 113.56    | 2 274 473 | 30.64        |
| 35-36                                                            | 69 078  | 620    | 8.98         | 31.92     | 68 768 | 110.92    | 2 205 090 | 31.33        |
| 36-37                                                            | 68 458  | 629    | 9.18         | 31.21     | 68 143 | 108.34    | 2 136 322 | 32.01        |
| 37-38                                                            | 67 829  | 637    | 9.40         | 30.49     | 67 510 | 105.98    | 2 068 179 | 32.80        |
| 38-39                                                            | 67 192  | 647    | 9.62         | 29.78     | 66 868 | 103.35    | 2 000 669 | 33.58        |
| 39-40                                                            | 66 545  | 655    | 9.85         | 29.06     | 66 217 | 101.09    | 1 933 801 | 34.41        |
| 40-41                                                            | 65 890  | 666    | 10.10        | 28.34     | 65 557 | 98.43     | 1 867 584 | 35.29        |
| 41-42                                                            | 65 224  | 677    | 10.37        | 27.63     | 64 886 | 95.84     | 1 802 027 | 36.19        |
| 42-43                                                            | 64 547  | 688    | 10.67        | 26.91     | 64 203 | 93.32     | 1 737 141 | 37.16        |
| 43-44                                                            | 63 859  | 703    | 11.01        | 26.20     | 63 507 | 90.34     | 1 672 938 | 38.17        |
| 44-45                                                            | 63 156  | 720    | 11.39        | 25.48     | 62 796 | 87.22     | 1 609 431 | 39.25        |



## ORIGINAL REGISTRATION STATES: 1901.

TABLE 1

REPORTED DEATHS IN 1900 (343,217), IN 1901 (332,203), AND IN 1902 (318,636).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 PERSONS BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Persons were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                  | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                    | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 15-46                                                                      | 62 436 | 739   | 11.81        | 24.77     | 62 067 | 83.99     | 1 546 635 | 40.37        |
| 16-47                                                                      | 61 697 | 762   | 12.35        | 24.06     | 61 316 | 80.17     | 1 484 568 | 41.56        |
| 17-48                                                                      | 60 935 | 784   | 12.87        | 23.36     | 60 543 | 77.22     | 1 423 252 | 42.81        |
| 18-49                                                                      | 60 151 | 807   | 13.41        | 22.65     | 59 748 | 74.04     | 1 362 709 | 44.15        |
| 19-50                                                                      | 59 344 | 830   | 13.99        | 21.96     | 58 929 | 71.00     | 1 302 961 | 45.54        |
| 20-51                                                                      | 58 514 | 854   | 14.59        | 21.26     | 58 087 | 68.02     | 1 244 032 | 47.04        |
| 21-52                                                                      | 57 660 | 883   | 15.31        | 20.57     | 57 219 | 64.80     | 1 185 945 | 48.61        |
| 22-53                                                                      | 56 777 | 923   | 16.27        | 19.88     | 56 315 | 61.01     | 1 128 726 | 50.30        |
| 23-54                                                                      | 55 854 | 974   | 17.44        | 19.20     | 55 367 | 56.84     | 1 072 411 | 52.08        |
| 24-55                                                                      | 54 880 | 1 028 | 18.73        | 18.53     | 54 366 | 52.89     | 1 017 044 | 53.97        |
| 25-56                                                                      | 53 852 | 1 088 | 20.20        | 17.88     | 53 308 | 49.00     | 962 678   | 55.93        |
| 26-57                                                                      | 52 764 | 1 145 | 21.69        | 17.23     | 52 191 | 45.58     | 909 370   | 58.04        |
| 27-58                                                                      | 51 619 | 1 189 | 23.03        | 16.61     | 51 025 | 42.91     | 857 179   | 60.20        |
| 28-59                                                                      | 50 430 | 1 223 | 24.26        | 15.99     | 49 819 | 40.74     | 806 154   | 62.54        |
| 29-60                                                                      | 49 207 | 1 261 | 25.62        | 15.37     | 48 577 | 38.52     | 756 335   | 65.06        |
| 30-61                                                                      | 47 946 | 1 295 | 27.02        | 14.76     | 47 299 | 36.52     | 707 758   | 67.75        |
| 31-62                                                                      | 46 651 | 1 338 | 28.69        | 14.16     | 45 982 | 34.37     | 660 459   | 70.62        |
| 32-63                                                                      | 45 313 | 1 398 | 30.85        | 13.56     | 44 614 | 31.91     | 614 477   | 73.75        |
| 33-64                                                                      | 43 915 | 1 468 | 33.17        | 12.98     | 43 181 | 29.41     | 569 863   | 77.04        |
| 34-65                                                                      | 42 447 | 1 536 | 36.17        | 12.41     | 41 679 | 27.13     | 526 682   | 80.58        |
| 35-66                                                                      | 40 911 | 1 602 | 39.16        | 11.86     | 40 110 | 25.04     | 485 003   | 84.32        |
| 36-67                                                                      | 39 309 | 1 662 | 42.29        | 11.32     | 38 478 | 23.15     | 444 893   | 88.34        |
| 37-68                                                                      | 37 647 | 1 712 | 45.47        | 10.80     | 36 791 | 21.19     | 406 415   | 92.59        |
| 38-69                                                                      | 35 935 | 1 753 | 48.79        | 10.29     | 35 059 | 20.00     | 369 624   | 97.18        |
| 39-70                                                                      | 34 182 | 1 792 | 52.44        | 9.79      | 33 286 | 18.57     | 334 565   | 102.15       |
| 40-71                                                                      | 32 390 | 1 827 | 56.41        | 9.30      | 31 476 | 17.23     | 301 279   | 107.53       |
| 41-72                                                                      | 30 563 | 1 860 | 60.85        | 8.83      | 29 633 | 15.93     | 269 603   | 113.25       |
| 42-73                                                                      | 28 703 | 1 892 | 65.91        | 8.37      | 27 757 | 14.67     | 240 170   | 119.47       |
| 43-74                                                                      | 26 811 | 1 918 | 71.54        | 7.92      | 25 852 | 13.48     | 212 413   | 126.26       |
| 44-75                                                                      | 24 893 | 1 933 | 77.66        | 7.49      | 23 927 | 12.38     | 186 561   | 133.51       |
| 45-76                                                                      | 22 960 | 1 937 | 84.38        | 7.08      | 21 991 | 11.35     | 162 634   | 141.24       |
| 46-77                                                                      | 21 023 | 1 928 | 91.71        | 6.69      | 20 039 | 10.10     | 140 643   | 149.48       |
| 47-78                                                                      | 19 095 | 1 903 | 99.66        | 6.31      | 18 113 | 9.53      | 120 584   | 158.48       |
| 48-79                                                                      | 17 192 | 1 862 | 108.29       | 5.96      | 16 261 | 8.73      | 102 441   | 167.79       |
| 49-80                                                                      | 15 330 | 1 801 | 117.50       | 5.62      | 14 429 | 8.01      | 86 180    | 177.94       |
| 50-81                                                                      | 13 529 | 1 721 | 127.23       | 5.30      | 12 668 | 7.36      | 71 751    | 188.68       |
| 51-82                                                                      | 11 808 | 1 623 | 137.41       | 5.00      | 10 996 | 6.78      | 59 083    | 200.00       |
| 52-83                                                                      | 10 185 | 1 508 | 148.02       | 4.72      | 9 431  | 6.26      | 48 087    | 211.86       |
| 53-84                                                                      | 8 677  | 1 380 | 159.06       | 4.45      | 7 987  | 5.79      | 38 656    | 224.72       |
| 54-85                                                                      | 7 297  | 1 244 | 170.57       | 4.20      | 6 675  | 5.36      | 30 669    | 238.10       |
| 55-86                                                                      | 6 053  | 1 106 | 182.62       | 3.96      | 5 500  | 4.98      | 23 994    | 252.53       |
| 56-87                                                                      | 4 947  | 966   | 195.30       | 3.74      | 4 464  | 4.62      | 18 494    | 267.38       |
| 57-88                                                                      | 3 981  | 831   | 208.67       | 3.52      | 3 566  | 4.29      | 14 030    | 284.09       |
| 58-89                                                                      | 3 150  | 701   | 222.75       | 3.32      | 2 799  | 3.99      | 10 461    | 301.20       |
| 59-90                                                                      | 2 449  | 582   | 237.52       | 3.13      | 2 158  | 3.71      | 7 663     | 319.49       |
| 60-91                                                                      | 1 867  | 472   | 252.95       | 2.95      | 1 631  | 3.45      | 5 507     | 338.98       |
| 61-92                                                                      | 1 395  | 375   | 269.01       | 2.78      | 1 207  | 3.22      | 3 876     | 359.71       |
| 62-93                                                                      | 1 020  | 292   | 285.72       | 2.62      | 874    | 3.00      | 2 669     | 381.68       |
| 63-94                                                                      | 728    | 221   | 303.14       | 2.46      | 618    | 2.80      | 1 795     | 406.50       |
| 64-95                                                                      | 507    | 163   | 321.37       | 2.32      | 426    | 2.61      | 1 177     | 431.03       |
| 65-96                                                                      | 344    | 117   | 340.52       | 2.18      | 286    | 2.44      | 751       | 458.72       |
| 66-97                                                                      | 227    | 82    | 360.71       | 2.05      | 186    | 2.27      | 465       | 487.80       |
| 67-98                                                                      | 145    | 55    | 382.06       | 1.92      | 117    | 2.12      | 279       | 520.83       |
| 68-99                                                                      | 90     | 37    | 404.64       | 1.80      | 72     | 1.97      | 162       | 555.56       |
| 69-100                                                                     | 53     | 22    | 428.51       | 1.69      | 42     | 1.83      | 90        | 591.72       |
| 100-101                                                                    | 31     | 14    | 453.73       | 1.58      | 24     | 1.70      | 48        | 632.91       |
| 101-102                                                                    | 17     | 8     | 480.31       | 1.48      | 13     | 1.58      | 24        | 675.68       |
| 102-103                                                                    | 9      | 5     | 508.29       | 1.38      | 6      | 1.47      | 11        | 724.61       |
| 103-104                                                                    | 4      | 2     | 537.68       | 1.28      | 3      | 1.36      | 5         | 781.25       |
| 104-105                                                                    | 2      | 1     | 568.55       | 1.20      | 1      | 1.26      | 2         | 833.33       |
| 105-106                                                                    | 1      | 1     | 600.93       | 1.11      | 1      | 1.16      | 1         | 900.90       |

TABLE 2

## LIFE TABLE FOR BOTH SEXES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (24,131,759), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE INTERVAL.                                                      | OF 100,000 PERSONS BORN ALIVE:             |                                            | RATE OF MORTALITY PER THOUSAND. | COMPLETE EXPECTATION OF LIFE.                                                | STATIONARY POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Persons were Born Alive Uniformly Throughout Each Year. |                                                       |                                                    |                                                                    |
|--------------------------------------------------------------------|--------------------------------------------|--------------------------------------------|---------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------|
|                                                                    |                                            |                                            |                                 |                                                                              | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                  | MEASURE OF VITALITY.                                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS. | DEATH RATE PER THOUSAND.                                           |
|                                                                    | Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval.   | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval.                                                                                                                     | Including only those in current month or year of age. | Population per death in age interval.              | Sum of numbers in column 6 in current and all older age intervals. |
| $x$ to $x+1$                                                       | $l_x$                                      | $d_x$                                      | $1000q_x$                       | $e_x$                                                                        | $L_x$                                                                                                                                                                                                | $L_x/d_x$                                             | $T_x$                                              | $1000l_x/T_x$                                                      |
| 1                                                                  | 2                                          | 3                                          | 4                               | 5                                                                            | 6                                                                                                                                                                                                    | 7                                                     | 8                                                  | 9                                                                  |
| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |                                            |                                            |                                 |                                                                              |                                                                                                                                                                                                      |                                                       |                                                    |                                                                    |
| Months.                                                            |                                            |                                            | Monthly rate.                   | In years.                                                                    |                                                                                                                                                                                                      | Per month.                                            |                                                    | Annual rate.                                                       |
| 0-1                                                                | 100 000                                    | 4 377                                      | 43.77                           | 51.49                                                                        | 8 060                                                                                                                                                                                                | 22.08                                                 | 5 148 536                                          | 19.42                                                              |
| 1-2                                                                | 95 623                                     | 1 131                                      | 11.83                           | 53.76                                                                        | 7 921                                                                                                                                                                                                | 84.00                                                 | 5 140 476                                          | 18.30                                                              |
| 2-3                                                                | 94 492                                     | 943                                        | 9.98                            | 54.32                                                                        | 7 835                                                                                                                                                                                                | 99.72                                                 | 5 132 555                                          | 18.31                                                              |
| 3-4                                                                | 93 549                                     | 801                                        | 8.57                            | 54.78                                                                        | 7 762                                                                                                                                                                                                | 116.28                                                | 5 124 720                                          | 18.25                                                              |
| 4-5                                                                | 92 748                                     | 705                                        | 7.60                            | 55.17                                                                        | 7 700                                                                                                                                                                                                | 131.01                                                | 5 116 958                                          | 18.13                                                              |
| 5-6                                                                | 92 043                                     | 635                                        | 6.90                            | 55.51                                                                        | 7 644                                                                                                                                                                                                | 144.48                                                | 5 109 258                                          | 18.01                                                              |
| 6-7                                                                | 91 408                                     | 579                                        | 6.33                            | 55.81                                                                        | 7 593                                                                                                                                                                                                | 157.32                                                | 5 101 614                                          | 17.92                                                              |
| 7-8                                                                | 90 829                                     | 533                                        | 5.87                            | 56.08                                                                        | 7 547                                                                                                                                                                                                | 169.92                                                | 5 094 021                                          | 17.83                                                              |
| 8-9                                                                | 90 296                                     | 492                                        | 5.45                            | 56.33                                                                        | 7 504                                                                                                                                                                                                | 183.00                                                | 5 086 474                                          | 17.75                                                              |
| 9-10                                                               | 89 804                                     | 456                                        | 5.08                            | 56.56                                                                        | 7 465                                                                                                                                                                                                | 196.44                                                | 5 078 970                                          | 17.68                                                              |
| 10-11                                                              | 89 348                                     | 421                                        | 4.72                            | 56.76                                                                        | 7 428                                                                                                                                                                                                | 211.68                                                | 5 071 505                                          | 17.62                                                              |
| 11-12                                                              | 88 927                                     | 389                                        | 4.38                            | 56.95                                                                        | 7 391                                                                                                                                                                                                | 228.12                                                | 5 064 077                                          | 17.56                                                              |
| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.   |                                            |                                            |                                 |                                                                              |                                                                                                                                                                                                      |                                                       |                                                    |                                                                    |
| Years.                                                             |                                            |                                            | Annual rate.                    | In years.                                                                    |                                                                                                                                                                                                      | Per year.                                             |                                                    | Annual rate.                                                       |
| 0-1                                                                | 100 000                                    | 11 462                                     | 114.62                          | 51.49                                                                        | 91 853                                                                                                                                                                                               | 8.01                                                  | 5 148 536                                          | 19.42                                                              |
| 1-2                                                                | 88 538                                     | 2 416                                      | 27.02                           | 57.11                                                                        | 87 095                                                                                                                                                                                               | 35.61                                                 | 5 056 683                                          | 17.51                                                              |
| 2-3                                                                | 86 092                                     | 1 062                                      | 12.34                           | 57.72                                                                        | 85 529                                                                                                                                                                                               | 80.54                                                 | 4 969 588                                          | 17.33                                                              |
| 3-4                                                                | 85 030                                     | 666                                        | 7.83                            | 57.44                                                                        | 84 683                                                                                                                                                                                               | 127.15                                                | 4 884 059                                          | 17.41                                                              |
| 4-5                                                                | 84 364                                     | 477                                        | 5.65                            | 56.89                                                                        | 81 116                                                                                                                                                                                               | 176.34                                                | 4 799 376                                          | 17.58                                                              |
| 5-6                                                                | 83 887                                     | 390                                        | 4.66                            | 56.21                                                                        | 83 692                                                                                                                                                                                               | 214.59                                                | 4 715 260                                          | 17.79                                                              |
| 6-7                                                                | 83 497                                     | 327                                        | 3.91                            | 55.47                                                                        | 83 333                                                                                                                                                                                               | 251.81                                                | 4 631 568                                          | 18.03                                                              |
| 7-8                                                                | 83 170                                     | 274                                        | 3.30                            | 54.69                                                                        | 83 033                                                                                                                                                                                               | 303.01                                                | 4 548 235                                          | 18.28                                                              |
| 8-9                                                                | 82 896                                     | 234                                        | 2.82                            | 53.87                                                                        | 82 779                                                                                                                                                                                               | 353.76                                                | 4 465 202                                          | 18.56                                                              |
| 9-10                                                               | 82 662                                     | 204                                        | 2.47                            | 53.02                                                                        | 82 560                                                                                                                                                                                               | 404.71                                                | 4 382 423                                          | 18.86                                                              |
| 10-11                                                              | 82 458                                     | 187                                        | 2.27                            | 52.15                                                                        | 82 365                                                                                                                                                                                               | 440.45                                                | 4 299 863                                          | 19.18                                                              |
| 11-12                                                              | 82 271                                     | 180                                        | 2.19                            | 51.26                                                                        | 82 181                                                                                                                                                                                               | 456.56                                                | 4 217 498                                          | 19.51                                                              |
| 12-13                                                              | 82 091                                     | 182                                        | 2.22                            | 50.37                                                                        | 82 000                                                                                                                                                                                               | 450.55                                                | 4 135 317                                          | 19.85                                                              |
| 13-14                                                              | 81 909                                     | 193                                        | 2.36                            | 49.49                                                                        | 81 812                                                                                                                                                                                               | 423.90                                                | 4 053 317                                          | 20.21                                                              |
| 14-15                                                              | 81 716                                     | 210                                        | 2.57                            | 48.60                                                                        | 81 611                                                                                                                                                                                               | 388.62                                                | 3 971 505                                          | 20.68                                                              |
| 15-16                                                              | 81 506                                     | 232                                        | 2.81                            | 47.73                                                                        | 81 390                                                                                                                                                                                               | 350.82                                                | 3 889 894                                          | 20.95                                                              |
| 16-17                                                              | 81 274                                     | 256                                        | 3.16                            | 46.86                                                                        | 81 116                                                                                                                                                                                               | 316.98                                                | 3 808 504                                          | 21.31                                                              |
| 17-18                                                              | 81 018                                     | 285                                        | 3.52                            | 46.01                                                                        | 80 875                                                                                                                                                                                               | 283.77                                                | 3 727 358                                          | 21.73                                                              |
| 18-19                                                              | 80 733                                     | 315                                        | 3.89                            | 45.17                                                                        | 80 576                                                                                                                                                                                               | 255.80                                                | 3 646 483                                          | 22.14                                                              |
| 19-20                                                              | 80 418                                     | 344                                        | 4.28                            | 44.34                                                                        | 80 246                                                                                                                                                                                               | 233.27                                                | 3 565 907                                          | 22.55                                                              |
| 20-21                                                              | 80 074                                     | 375                                        | 4.68                            | 43.53                                                                        | 79 887                                                                                                                                                                                               | 213.03                                                | 3 485 661                                          | 22.97                                                              |
| 21-22                                                              | 79 699                                     | 398                                        | 5.00                            | 42.73                                                                        | 79 500                                                                                                                                                                                               | 190.75                                                | 3 405 774                                          | 23.40                                                              |
| 22-23                                                              | 79 301                                     | 412                                        | 5.19                            | 41.94                                                                        | 79 095                                                                                                                                                                                               | 191.98                                                | 3 326 274                                          | 23.81                                                              |
| 23-24                                                              | 78 889                                     | 418                                        | 5.29                            | 41.16                                                                        | 78 680                                                                                                                                                                                               | 188.23                                                | 3 247 179                                          | 24.30                                                              |
| 24-25                                                              | 78 471                                     | 425                                        | 5.42                            | 40.38                                                                        | 78 259                                                                                                                                                                                               | 184.14                                                | 3 168 499                                          | 24.76                                                              |
| 25-26                                                              | 78 046                                     | 432                                        | 5.51                            | 39.60                                                                        | 77 830                                                                                                                                                                                               | 180.16                                                | 3 090 240                                          | 25.25                                                              |
| 26-27                                                              | 77 614                                     | 440                                        | 5.67                            | 38.81                                                                        | 77 391                                                                                                                                                                                               | 175.90                                                | 3 012 410                                          | 25.77                                                              |
| 27-28                                                              | 77 174                                     | 451                                        | 5.85                            | 38.03                                                                        | 76 949                                                                                                                                                                                               | 170.62                                                | 2 935 016                                          | 26.30                                                              |
| 28-29                                                              | 76 723                                     | 465                                        | 6.06                            | 37.25                                                                        | 76 491                                                                                                                                                                                               | 164.50                                                | 2 858 067                                          | 26.85                                                              |
| 29-30                                                              | 76 258                                     | 479                                        | 6.28                            | 36.48                                                                        | 76 019                                                                                                                                                                                               | 158.70                                                | 2 781 576                                          | 27.41                                                              |
| 30-31                                                              | 75 779                                     | 493                                        | 6.51                            | 35.70                                                                        | 75 532                                                                                                                                                                                               | 153.21                                                | 2 705 557                                          | 28.01                                                              |
| 31-32                                                              | 75 286                                     | 511                                        | 6.78                            | 34.93                                                                        | 75 030                                                                                                                                                                                               | 146.83                                                | 2 630 025                                          | 28.63                                                              |
| 32-33                                                              | 74 773                                     | 530                                        | 7.09                            | 34.17                                                                        | 74 510                                                                                                                                                                                               | 140.58                                                | 2 554 995                                          | 29.27                                                              |
| 33-34                                                              | 74 245                                     | 550                                        | 7.40                            | 33.41                                                                        | 73 970                                                                                                                                                                                               | 134.49                                                | 2 480 485                                          | 29.93                                                              |
| 34-35                                                              | 73 695                                     | 568                                        | 7.72                            | 32.66                                                                        | 73 411                                                                                                                                                                                               | 129.24                                                | 2 406 515                                          | 30.62                                                              |
| 35-36                                                              | 73 127                                     | 588                                        | 8.04                            | 31.90                                                                        | 72 833                                                                                                                                                                                               | 123.87                                                | 2 333 104                                          | 31.35                                                              |
| 36-37                                                              | 72 539                                     | 605                                        | 8.33                            | 31.16                                                                        | 72 237                                                                                                                                                                                               | 119.40                                                | 2 260 271                                          | 32.09                                                              |
| 37-38                                                              | 71 934                                     | 617                                        | 8.59                            | 30.42                                                                        | 71 626                                                                                                                                                                                               | 116.09                                                | 2 188 034                                          | 32.87                                                              |
| 38-39                                                              | 71 317                                     | 631                                        | 8.84                            | 29.68                                                                        | 71 001                                                                                                                                                                                               | 112.52                                                | 2 116 468                                          | 33.69                                                              |
| 39-40                                                              | 70 686                                     | 644                                        | 9.11                            | 28.94                                                                        | 70 364                                                                                                                                                                                               | 109.26                                                | 2 045 407                                          | 34.55                                                              |
| 40-41                                                              | 70 042                                     | 658                                        | 9.39                            | 28.20                                                                        | 69 713                                                                                                                                                                                               | 105.95                                                | 1 975 043                                          | 35.46                                                              |
| 41-42                                                              | 69 384                                     | 674                                        | 9.72                            | 27.46                                                                        | 69 047                                                                                                                                                                                               | 102.44                                                | 1 905 330                                          | 36.42                                                              |
| 42-43                                                              | 68 710                                     | 693                                        | 10.09                           | 26.73                                                                        | 68 364                                                                                                                                                                                               | 98.65                                                 | 1 836 283                                          | 37.41                                                              |
| 43-44                                                              | 68 017                                     | 716                                        | 10.52                           | 25.99                                                                        | 67 659                                                                                                                                                                                               | 94.50                                                 | 1 767 919                                          | 38.48                                                              |
| 44-45                                                              | 67 301                                     | 740                                        | 10.99                           | 25.26                                                                        | 66 931                                                                                                                                                                                               | 90.45                                                 | 1 700 260                                          | 39.59                                                              |

## ORIGINAL REGISTRATION STATES: 1910.

## TABLE 2

REPORTED DEATHS IN 1909 (353,576), IN 1910 (377,015), AND IN 1911 (368,087).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE<br>INTERVAL. | OF 100,000 PERSONS BORN<br>ALIVE:                   |                                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND. | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                           | STATIONARY POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Persons were Born Alive Uniformly Throughout Each Year. |                                                                |                                                            |                                                                               |
|------------------|-----------------------------------------------------|--------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------|
|                  |                                                     |                                                  |                                          |                                                                                               | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                               | MEASURE OF<br>VITALITY.                                        | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS. | DEATH RATE<br>PER THOUSAND.                                                   |
|                  | Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval.         | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval.                                                                                                            | Including only<br>those in current<br>month or year<br>of age. | Population<br>per death in<br>age interval.                | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                               | $d_x$                                            | $1000q_x$                                | $e_x$                                                                                         | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                                                      | $T_x$                                                      | $1000l_x/T_x$                                                                 |
| 1                | 2                                                   | 3                                                | 4                                        | 5                                                                                             | 6                                                                                                                                                                                                       | 7                                                              | 8                                                          | 9                                                                             |

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.

| Years.  |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
|---------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| 45-46   | 66 561 | 766   | 11.52        | 21.54     | 66 178 | 86.39     | 1 633 329 | 40.75        |
| 46-47   | 65 795 | 795   | 12.08        | 20.82     | 65 397 | 82.26     | 1 567 151 | 41.98        |
| 47-48   | 65 000 | 821   | 12.63        | 20.10     | 61 589 | 78.67     | 1 501 754 | 43.29        |
| 48-49   | 61 179 | 816   | 13.18        | 19.39     | 63 756 | 75.36     | 1 437 165 | 44.66        |
| 49-50   | 63 333 | 873   | 13.77        | 18.69     | 62 897 | 72.05     | 1 373 409 | 46.10        |
| 50-51   | 62 460 | 897   | 14.37        | 17.98     | 62 012 | 69.13     | 1 310 512 | 47.66        |
| 51-52   | 61 563 | 929   | 15.08        | 17.28     | 61 098 | 65.77     | 1 248 500 | 49.31        |
| 52-53   | 60 634 | 970   | 16.01        | 16.58     | 60 149 | 62.01     | 1 187 403 | 51.07        |
| 53-54   | 59 664 | 1 025 | 17.17        | 15.89     | 59 151 | 57.71     | 1 127 253 | 52.94        |
| 54-55   | 58 639 | 1 084 | 18.49        | 15.21     | 58 097 | 53.60     | 1 068 102 | 54.91        |
| 55-56   | 57 555 | 1 153 | 20.03        | 14.55     | 56 978 | 49.42     | 1 010 005 | 56.98        |
| 56-57   | 56 402 | 1 235 | 21.72        | 13.90     | 55 790 | 45.54     | 953 027   | 59.17        |
| 57-58   | 55 177 | 1 289 | 23.37        | 13.26     | 54 532 | 42.31     | 897 237   | 61.50        |
| 58-59   | 53 888 | 1 316 | 24.97        | 12.64     | 53 215 | 39.54     | 842 705   | 63.94        |
| 59-60   | 52 542 | 1 404 | 26.73        | 12.03     | 51 840 | 36.92     | 789 490   | 66.53        |
| 60-61   | 51 138 | 1 462 | 28.58        | 11.42     | 50 407 | 34.48     | 737 650   | 69.35        |
| 61-62   | 49 676 | 1 521 | 30.62        | 10.83     | 48 915 | 32.16     | 687 243   | 72.31        |
| 62-63   | 48 155 | 1 587 | 32.96        | 10.26     | 47 361 | 29.84     | 638 328   | 75.41        |
| 63-64   | 46 568 | 1 656 | 35.55        | 9.69      | 45 740 | 27.62     | 590 967   | 78.80        |
| 64-65   | 44 912 | 1 718 | 38.25        | 9.14      | 44 053 | 25.64     | 545 227   | 82.37        |
| 65-66   | 43 194 | 1 773 | 41.06        | 8.60      | 42 308 | 23.86     | 501 174   | 86.21        |
| 66-67   | 41 421 | 1 826 | 44.08        | 8.08      | 40 508 | 22.18     | 458 866   | 90.25        |
| 67-68   | 39 595 | 1 877 | 47.41        | 7.57      | 38 657 | 20.60     | 418 358   | 94.61        |
| 68-69   | 37 718 | 1 928 | 51.12        | 7.07      | 36 754 | 19.06     | 379 701   | 99.30        |
| 69-70   | 35 790 | 1 974 | 55.14        | 6.58      | 34 803 | 17.63     | 342 947   | 104.38       |
| 70-71   | 33 816 | 2 013 | 59.52        | 6.11      | 32 810 | 16.30     | 308 144   | 109.77       |
| 71-72   | 31 803 | 2 044 | 64.29        | 5.66      | 30 781 | 15.06     | 275 334   | 115.47       |
| 72-73   | 29 759 | 2 065 | 69.38        | 5.22      | 28 726 | 13.91     | 244 553   | 121.65       |
| 73-74   | 27 691 | 2 072 | 74.82        | 4.79      | 26 658 | 12.87     | 215 827   | 128.37       |
| 74-75   | 25 622 | 2 070 | 80.78        | 4.38      | 24 587 | 11.88     | 189 169   | 135.50       |
| 75-76   | 23 552 | 2 057 | 87.37        | 3.99      | 22 523 | 10.95     | 164 582   | 143.06       |
| 76-77   | 21 495 | 2 028 | 94.35        | 3.61      | 20 481 | 10.10     | 142 059   | 151.29       |
| 77-78   | 19 467 | 1 981 | 101.74       | 3.25      | 18 476 | 9.33      | 121 578   | 160.00       |
| 78-79   | 17 486 | 1 920 | 109.78       | 2.90      | 16 526 | 8.61      | 103 102   | 169.19       |
| 79-80   | 15 566 | 1 851 | 119.10       | 2.56      | 14 639 | 7.90      | 86 576    | 179.86       |
| 80-81   | 13 712 | 1 786 | 130.28       | 2.25      | 12 819 | 7.18      | 71 937    | 190.48       |
| 81-82   | 11 926 | 1 696 | 142.17       | 1.96      | 11 078 | 6.53      | 59 118    | 201.61       |
| 82-83   | 10 200 | 1 565 | 153.06       | 1.70      | 9 448  | 6.03      | 48 040    | 212.77       |
| 83-84   | 8 665  | 1 409 | 162.58       | 1.45      | 7 960  | 5.65      | 38 592    | 224.72       |
| 84-85   | 7 256  | 1 255 | 172.97       | 1.22      | 6 628  | 5.28      | 30 632    | 236.97       |
| 85-86   | 6 001  | 1 103 | 183.80       | 1.00      | 5 449  | 4.94      | 24 004    | 250.00       |
| 86-87   | 4 898  | 951   | 194.85       | 0.79      | 4 421  | 4.63      | 18 555    | 263.85       |
| 87-88   | 3 941  | 816   | 206.84       | 0.58      | 3 536  | 4.33      | 14 134    | 279.33       |
| 88-89   | 3 128  | 689   | 220.13       | 0.39      | 2 784  | 4.04      | 10 598    | 294.99       |
| 89-90   | 2 439  | 571   | 234.31       | 0.20      | 2 154  | 3.77      | 7 814     | 312.50       |
| 90-91   | 1 868  | 466   | 249.62       | 0.03      | 1 635  | 3.51      | 5 660     | 330.03       |
| 91-92   | 1 402  | 371   | 264.66       | 0.27      | 1 216  | 3.28      | 4 025     | 348.43       |
| 92-93   | 1 031  | 289   | 279.90       | 0.73      | 886    | 3.07      | 2 809     | 366.30       |
| 93-94   | 742    | 219   | 295.12       | 2.59      | 633    | 2.89      | 1 923     | 386.10       |
| 94-95   | 523    | 162   | 310.17       | 2.47      | 442    | 2.72      | 1 290     | 401.86       |
| 95-96   | 361    | 117   | 325.02       | 2.35      | 302    | 2.58      | 848       | 425.53       |
| 96-97   | 244    | 83    | 339.74       | 2.24      | 203    | 2.44      | 546       | 446.13       |
| 97-98   | 161    | 67    | 351.55       | 2.14      | 132    | 2.32      | 344       | 467.29       |
| 98-99   | 104    | 39    | 369.73       | 2.04      | 85     | 2.20      | 212       | 490.20       |
| 99-100  | 65     | 25    | 385.46       | 1.95      | 53     | 2.09      | 127       | 512.82       |
| 100-101 | 40     | 16    | 401.91       | 1.85      | 32     | 1.99      | 74        | 540.54       |
| 101-102 | 24     | 10    | 419.14       | 1.76      | 19     | 1.89      | 42        | 568.18       |
| 102-103 | 14     | 6     | 437.37       | 1.67      | 11     | 1.79      | 23        | 598.80       |
| 103-104 | 8      | 4     | 456.77       | 1.59      | 6      | 1.69      | 12        | 628.93       |
| 104-105 | 4      | 2     | 477.48       | 1.50      | 3      | 1.59      | 6         | 666.67       |
| 105-106 | 2      | 1     | 500.22       | 1.41      | 2      | 1.50      | 3         | 709.22       |
| 106-107 | 1      | 1     | 524.82       | 1.33      | 1      | 1.41      | 1         | 751.88       |

TABLE 3

## LIFE TABLE FOR MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (10,222,010), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE INTERVAL.                                                      | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                                                    |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages.                         | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                   | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                                                       | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                                                  | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                       | 7                                     | 8                                                                  | 9                                                                                            |
| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                         |                                       |                                                                    |                                                                                              |
| Months.                                                            |                                            |                               | Monthly rate.                                                                | In years                                                                         |                                                                                                                                                                                                         | Per month.                            |                                                                    | Annual rate.                                                                                 |
| 0-1                                                                | 100 000                                    | 4 631                         | 46.31                                                                        | 47.88                                                                            | 8 044                                                                                                                                                                                                   | 20.88                                 | 4 787 531                                                          | 20.89                                                                                        |
| 1-2                                                                | 95 369                                     | 1 235                         | 12.95                                                                        | 50.12                                                                            | 7 896                                                                                                                                                                                                   | 76.68                                 | 4 779 487                                                          | 19.95                                                                                        |
| 2-3                                                                | 94 134                                     | 1 127                         | 11.97                                                                        | 50.69                                                                            | 7 798                                                                                                                                                                                                   | 83.04                                 | 4 771 591                                                          | 19.73                                                                                        |
| 3-4                                                                | 93 007                                     | 1 036                         | 11.15                                                                        | 51.22                                                                            | 7 707                                                                                                                                                                                                   | 89.28                                 | 4 763 793                                                          | 19.52                                                                                        |
| 4-5                                                                | 91 971                                     | 949                           | 10.33                                                                        | 51.71                                                                            | 7 625                                                                                                                                                                                                   | 96.36                                 | 4 756 086                                                          | 19.34                                                                                        |
| 5-6                                                                | 91 022                                     | 869                           | 9.54                                                                         | 52.17                                                                            | 7 549                                                                                                                                                                                                   | 104.28                                | 4 748 461                                                          | 19.17                                                                                        |
| 6-7                                                                | 90 153                                     | 790                           | 8.77                                                                         | 52.59                                                                            | 7 480                                                                                                                                                                                                   | 113.64                                | 4 740 912                                                          | 19.02                                                                                        |
| 7-8                                                                | 89 363                                     | 714                           | 7.99                                                                         | 52.97                                                                            | 7 417                                                                                                                                                                                                   | 124.68                                | 4 733 432                                                          | 18.88                                                                                        |
| 8-9                                                                | 88 619                                     | 644                           | 7.26                                                                         | 53.31                                                                            | 7 361                                                                                                                                                                                                   | 137.16                                | 4 726 015                                                          | 18.76                                                                                        |
| 9-10                                                               | 88 005                                     | 578                           | 6.57                                                                         | 53.62                                                                            | 7 310                                                                                                                                                                                                   | 151.80                                | 4 718 654                                                          | 18.65                                                                                        |
| 10-11                                                              | 87 427                                     | 520                           | 5.96                                                                         | 53.89                                                                            | 7 264                                                                                                                                                                                                   | 167.64                                | 4 711 344                                                          | 18.56                                                                                        |
| 11-12                                                              | 86 907                                     | 481                           | 5.53                                                                         | 54.13                                                                            | 7 222                                                                                                                                                                                                   | 180.12                                | 4 704 080                                                          | 18.47                                                                                        |
| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.   |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                         |                                       |                                                                    |                                                                                              |
| Years.                                                             |                                            |                               | Annual rate.                                                                 | In years                                                                         |                                                                                                                                                                                                         | Per year.                             |                                                                    | Annual rate.                                                                                 |
| 0-1                                                                | 100 000                                    | 13 574                        | 135.74                                                                       | 47.88                                                                            | 90 673                                                                                                                                                                                                  | 6.68                                  | 4 787 531                                                          | 20.89                                                                                        |
| 1-2                                                                | 86 426                                     | 3 010                         | 35.17                                                                        | 51.35                                                                            | 81 633                                                                                                                                                                                                  | 27.84                                 | 4 696 858                                                          | 18.40                                                                                        |
| 2-3                                                                | 83 356                                     | 1 345                         | 16.13                                                                        | 55.31                                                                            | 82 673                                                                                                                                                                                                  | 61.47                                 | 4 612 225                                                          | 18.08                                                                                        |
| 3-4                                                                | 82 041                                     | 852                           | 10.39                                                                        | 55.21                                                                            | 81 598                                                                                                                                                                                                  | 95.77                                 | 4 529 552                                                          | 18.11                                                                                        |
| 4-5                                                                | 81 189                                     | 641                           | 7.89                                                                         | 54.79                                                                            | 80 856                                                                                                                                                                                                  | 126.14                                | 4 447 954                                                          | 18.25                                                                                        |
| 5-6                                                                | 80 518                                     | 494                           | 6.13                                                                         | 54.22                                                                            | 80 301                                                                                                                                                                                                  | 162.55                                | 4 367 098                                                          | 18.44                                                                                        |
| 6-7                                                                | 80 054                                     | 409                           | 5.11                                                                         | 53.55                                                                            | 79 850                                                                                                                                                                                                  | 195.23                                | 4 286 797                                                          | 18.67                                                                                        |
| 7-8                                                                | 79 645                                     | 339                           | 4.26                                                                         | 52.82                                                                            | 79 475                                                                                                                                                                                                  | 234.44                                | 4 206 947                                                          | 18.93                                                                                        |
| 8-9                                                                | 79 306                                     | 285                           | 3.60                                                                         | 52.04                                                                            | 79 163                                                                                                                                                                                                  | 277.76                                | 4 127 472                                                          | 19.22                                                                                        |
| 9-10                                                               | 79 021                                     | 246                           | 3.11                                                                         | 51.23                                                                            | 78 898                                                                                                                                                                                                  | 320.72                                | 4 048 309                                                          | 19.52                                                                                        |
| 10-11                                                              | 78 775                                     | 220                           | 2.80                                                                         | 50.39                                                                            | 78 665                                                                                                                                                                                                  | 357.57                                | 3 969 411                                                          | 19.85                                                                                        |
| 11-12                                                              | 78 565                                     | 208                           | 2.65                                                                         | 49.53                                                                            | 78 451                                                                                                                                                                                                  | 377.17                                | 3 890 746                                                          | 20.19                                                                                        |
| 12-13                                                              | 78 347                                     | 209                           | 2.66                                                                         | 48.66                                                                            | 78 243                                                                                                                                                                                                  | 374.37                                | 3 812 295                                                          | 20.55                                                                                        |
| 13-14                                                              | 78 138                                     | 218                           | 2.80                                                                         | 47.79                                                                            | 78 029                                                                                                                                                                                                  | 357.93                                | 3 734 052                                                          | 20.92                                                                                        |
| 14-15                                                              | 77 920                                     | 239                           | 3.07                                                                         | 46.92                                                                            | 77 800                                                                                                                                                                                                  | 325.52                                | 3 656 023                                                          | 21.31                                                                                        |
| 15-16                                                              | 77 681                                     | 266                           | 3.42                                                                         | 46.06                                                                            | 77 548                                                                                                                                                                                                  | 291.53                                | 3 578 223                                                          | 21.71                                                                                        |
| 16-17                                                              | 77 415                                     | 299                           | 3.86                                                                         | 45.22                                                                            | 77 285                                                                                                                                                                                                  | 258.41                                | 3 500 675                                                          | 22.11                                                                                        |
| 17-18                                                              | 77 116                                     | 337                           | 4.37                                                                         | 44.39                                                                            | 76 947                                                                                                                                                                                                  | 228.33                                | 3 423 410                                                          | 22.53                                                                                        |
| 18-19                                                              | 76 779                                     | 377                           | 4.90                                                                         | 43.59                                                                            | 76 591                                                                                                                                                                                                  | 203.16                                | 3 346 463                                                          | 22.94                                                                                        |
| 19-20                                                              | 76 403                                     | 418                           | 5.47                                                                         | 42.80                                                                            | 76 193                                                                                                                                                                                                  | 182.28                                | 3 269 872                                                          | 23.36                                                                                        |
| 20-21                                                              | 75 984                                     | 462                           | 6.09                                                                         | 42.03                                                                            | 75 753                                                                                                                                                                                                  | 163.97                                | 3 193 679                                                          | 23.79                                                                                        |
| 21-22                                                              | 75 522                                     | 496                           | 6.57                                                                         | 41.29                                                                            | 75 274                                                                                                                                                                                                  | 151.76                                | 3 117 926                                                          | 24.22                                                                                        |
| 22-23                                                              | 75 026                                     | 513                           | 6.83                                                                         | 40.55                                                                            | 74 770                                                                                                                                                                                                  | 145.75                                | 3 042 652                                                          | 24.66                                                                                        |
| 23-24                                                              | 74 513                                     | 517                           | 6.95                                                                         | 39.83                                                                            | 74 255                                                                                                                                                                                                  | 143.63                                | 2 967 882                                                          | 25.11                                                                                        |
| 24-25                                                              | 73 996                                     | 524                           | 7.08                                                                         | 39.11                                                                            | 73 734                                                                                                                                                                                                  | 140.71                                | 2 893 627                                                          | 25.57                                                                                        |
| 25-26                                                              | 73 472                                     | 528                           | 7.19                                                                         | 38.38                                                                            | 73 208                                                                                                                                                                                                  | 138.65                                | 2 819 893                                                          | 26.06                                                                                        |
| 26-27                                                              | 72 941                                     | 535                           | 7.32                                                                         | 37.65                                                                            | 72 677                                                                                                                                                                                                  | 135.81                                | 2 746 685                                                          | 26.56                                                                                        |
| 27-28                                                              | 72 409                                     | 543                           | 7.50                                                                         | 36.93                                                                            | 72 138                                                                                                                                                                                                  | 132.85                                | 2 674 008                                                          | 27.08                                                                                        |
| 28-29                                                              | 71 866                                     | 554                           | 7.72                                                                         | 36.20                                                                            | 71 589                                                                                                                                                                                                  | 129.22                                | 2 601 870                                                          | 27.62                                                                                        |
| 29-30                                                              | 71 312                                     | 565                           | 7.92                                                                         | 35.48                                                                            | 71 030                                                                                                                                                                                                  | 125.72                                | 2 530 281                                                          | 28.18                                                                                        |
| 30-31                                                              | 70 747                                     | 574                           | 8.12                                                                         | 34.76                                                                            | 70 460                                                                                                                                                                                                  | 122.75                                | 2 459 251                                                          | 28.77                                                                                        |
| 31-32                                                              | 70 173                                     | 586                           | 8.34                                                                         | 34.04                                                                            | 69 880                                                                                                                                                                                                  | 119.25                                | 2 388 791                                                          | 29.38                                                                                        |
| 32-33                                                              | 69 587                                     | 598                           | 8.60                                                                         | 33.32                                                                            | 69 288                                                                                                                                                                                                  | 115.87                                | 2 318 911                                                          | 30.01                                                                                        |
| 33-34                                                              | 68 989                                     | 612                           | 8.87                                                                         | 32.61                                                                            | 68 683                                                                                                                                                                                                  | 112.23                                | 2 249 623                                                          | 30.67                                                                                        |
| 34-35                                                              | 68 377                                     | 625                           | 9.14                                                                         | 31.90                                                                            | 68 065                                                                                                                                                                                                  | 108.90                                | 2 180 940                                                          | 31.35                                                                                        |
| 35-36                                                              | 67 752                                     | 639                           | 9.44                                                                         | 31.19                                                                            | 67 433                                                                                                                                                                                                  | 105.53                                | 2 112 875                                                          | 32.06                                                                                        |
| 36-37                                                              | 67 113                                     | 652                           | 9.71                                                                         | 30.48                                                                            | 66 787                                                                                                                                                                                                  | 102.43                                | 2 045 442                                                          | 32.81                                                                                        |
| 37-38                                                              | 66 461                                     | 662                           | 9.97                                                                         | 29.77                                                                            | 66 130                                                                                                                                                                                                  | 99.89                                 | 1 978 655                                                          | 33.59                                                                                        |
| 38-39                                                              | 65 799                                     | 672                           | 10.20                                                                        | 29.07                                                                            | 65 463                                                                                                                                                                                                  | 97.42                                 | 1 912 525                                                          | 34.40                                                                                        |
| 39-40                                                              | 65 127                                     | 680                           | 10.45                                                                        | 28.36                                                                            | 64 787                                                                                                                                                                                                  | 95.28                                 | 1 847 062                                                          | 35.26                                                                                        |
| 40-41                                                              | 64 447                                     | 691                           | 10.72                                                                        | 27.65                                                                            | 64 101                                                                                                                                                                                                  | 92.77                                 | 1 782 275                                                          | 36.17                                                                                        |
| 41-42                                                              | 63 756                                     | 702                           | 11.01                                                                        | 26.95                                                                            | 63 405                                                                                                                                                                                                  | 90.32                                 | 1 718 174                                                          | 37.11                                                                                        |
| 42-43                                                              | 63 054                                     | 716                           | 11.36                                                                        | 26.21                                                                            | 62 696                                                                                                                                                                                                  | 87.56                                 | 1 654 769                                                          | 38.11                                                                                        |
| 43-44                                                              | 62 338                                     | 735                           | 11.78                                                                        | 25.51                                                                            | 61 971                                                                                                                                                                                                  | 84.31                                 | 1 592 073                                                          | 39.15                                                                                        |
| 44-45                                                              | 61 603                                     | 754                           | 12.25                                                                        | 24.84                                                                            | 61 226                                                                                                                                                                                                  | 81.20                                 | 1 530 102                                                          | 40.26                                                                                        |

## ORIGINAL REGISTRATION STATES: 1901.

TABLE 3

REPORTED DEATHS IN 1900 (179,016), IN 1901 (174,867), AND IN 1902 (168,639).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE<br>INTERVAL.                                                           | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|----------------------------------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                                            |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
|                                                                            | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                                               | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                                          | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |
| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |                                                  |                                  |                                                                                               |                                                                                              |                                                                                                                                                                                                            |                                             |                                                                               |                                                                                                                 |
| Years.                                                                     |                                                  |                                  | Annual rate.                                                                                  | In years                                                                                     |                                                                                                                                                                                                            | Per year.                                   |                                                                               | Annual rate.                                                                                                    |
| 45-46                                                                      | 60 849                                           | 778                              | 12.79                                                                                         | 24.14                                                                                        | 60 460                                                                                                                                                                                                     | 77.71                                       | 1 468 876                                                                     | 41.43                                                                                                           |
| 46-47                                                                      | 60 071                                           | 803                              | 13.37                                                                                         | 23.45                                                                                        | 59 669                                                                                                                                                                                                     | 74.31                                       | 1 408 416                                                                     | 42.64                                                                                                           |
| 47-48                                                                      | 59 268                                           | 825                              | 13.91                                                                                         | 22.76                                                                                        | 58 855                                                                                                                                                                                                     | 71.34                                       | 1 348 747                                                                     | 43.94                                                                                                           |
| 48-49                                                                      | 58 443                                           | 843                              | 14.43                                                                                         | 22.07                                                                                        | 58 021                                                                                                                                                                                                     | 68.83                                       | 1 289 892                                                                     | 45.31                                                                                                           |
| 49-50                                                                      | 57 600                                           | 864                              | 15.00                                                                                         | 21.39                                                                                        | 57 168                                                                                                                                                                                                     | 66.17                                       | 1 231 871                                                                     | 46.75                                                                                                           |
| 50-51                                                                      | 56 736                                           | 883                              | 15.56                                                                                         | 20.70                                                                                        | 56 294                                                                                                                                                                                                     | 63.75                                       | 1 174 703                                                                     | 48.31                                                                                                           |
| 51-52                                                                      | 55 853                                           | 910                              | 16.28                                                                                         | 20.02                                                                                        | 55 398                                                                                                                                                                                                     | 60.88                                       | 1 118 409                                                                     | 49.95                                                                                                           |
| 52-53                                                                      | 54 943                                           | 949                              | 17.27                                                                                         | 19.35                                                                                        | 54 469                                                                                                                                                                                                     | 57.40                                       | 1 063 011                                                                     | 51.68                                                                                                           |
| 53-54                                                                      | 53 994                                           | 1 000                            | 18.53                                                                                         | 18.68                                                                                        | 53 494                                                                                                                                                                                                     | 53.49                                       | 1 008 542                                                                     | 53.53                                                                                                           |
| 54-55                                                                      | 52 994                                           | 1 055                            | 19.90                                                                                         | 18.02                                                                                        | 52 466                                                                                                                                                                                                     | 49.73                                       | 955 048                                                                       | 55.49                                                                                                           |
| 55-56                                                                      | 51 939                                           | 1 116                            | 21.48                                                                                         | 17.38                                                                                        | 51 381                                                                                                                                                                                                     | 46.04                                       | 902 582                                                                       | 57.54                                                                                                           |
| 56-57                                                                      | 50 823                                           | 1 172                            | 23.08                                                                                         | 16.75                                                                                        | 50 237                                                                                                                                                                                                     | 42.86                                       | 851 201                                                                       | 59.70                                                                                                           |
| 57-58                                                                      | 49 651                                           | 1 217                            | 24.51                                                                                         | 16.13                                                                                        | 49 042                                                                                                                                                                                                     | 40.30                                       | 800 964                                                                       | 62.00                                                                                                           |
| 58-59                                                                      | 48 434                                           | 1 252                            | 25.84                                                                                         | 15.52                                                                                        | 47 808                                                                                                                                                                                                     | 38.19                                       | 751 922                                                                       | 64.43                                                                                                           |
| 59-60                                                                      | 47 182                                           | 1 287                            | 27.29                                                                                         | 14.92                                                                                        | 46 538                                                                                                                                                                                                     | 36.16                                       | 704 114                                                                       | 67.02                                                                                                           |
| 60-61                                                                      | 45 895                                           | 1 323                            | 28.81                                                                                         | 14.33                                                                                        | 45 233                                                                                                                                                                                                     | 34.19                                       | 657 576                                                                       | 69.78                                                                                                           |
| 61-62                                                                      | 44 572                                           | 1 364                            | 30.62                                                                                         | 13.74                                                                                        | 43 890                                                                                                                                                                                                     | 32.18                                       | 612 343                                                                       | 72.78                                                                                                           |
| 62-63                                                                      | 43 208                                           | 1 423                            | 32.94                                                                                         | 13.16                                                                                        | 42 496                                                                                                                                                                                                     | 29.86                                       | 568 453                                                                       | 75.99                                                                                                           |
| 63-64                                                                      | 41 785                                           | 1 492                            | 35.70                                                                                         | 12.59                                                                                        | 41 039                                                                                                                                                                                                     | 27.51                                       | 525 957                                                                       | 79.43                                                                                                           |
| 64-65                                                                      | 40 293                                           | 1 557                            | 38.63                                                                                         | 12.03                                                                                        | 39 515                                                                                                                                                                                                     | 25.38                                       | 484 918                                                                       | 83.13                                                                                                           |
| 65-66                                                                      | 38 736                                           | 1 620                            | 41.83                                                                                         | 11.50                                                                                        | 37 926                                                                                                                                                                                                     | 23.41                                       | 445 403                                                                       | 86.96                                                                                                           |
| 66-67                                                                      | 37 116                                           | 1 674                            | 45.12                                                                                         | 10.98                                                                                        | 36 279                                                                                                                                                                                                     | 21.67                                       | 407 477                                                                       | 91.07                                                                                                           |
| 67-68                                                                      | 35 442                                           | 1 715                            | 48.47                                                                                         | 10.47                                                                                        | 34 584                                                                                                                                                                                                     | 20.17                                       | 371 198                                                                       | 95.51                                                                                                           |
| 68-69                                                                      | 33 727                                           | 1 742                            | 51.67                                                                                         | 9.98                                                                                         | 32 856                                                                                                                                                                                                     | 18.86                                       | 336 614                                                                       | 100.20                                                                                                          |
| 69-70                                                                      | 31 985                                           | 1 768                            | 55.27                                                                                         | 9.50                                                                                         | 31 101                                                                                                                                                                                                     | 17.39                                       | 303 758                                                                       | 105.26                                                                                                          |
| 70-71                                                                      | 30 217                                           | 1 786                            | 59.11                                                                                         | 9.02                                                                                         | 29 324                                                                                                                                                                                                     | 16.42                                       | 272 657                                                                       | 110.86                                                                                                          |
| 71-72                                                                      | 28 431                                           | 1 806                            | 63.52                                                                                         | 8.56                                                                                         | 27 528                                                                                                                                                                                                     | 15.21                                       | 243 333                                                                       | 116.82                                                                                                          |
| 72-73                                                                      | 26 625                                           | 1 831                            | 68.75                                                                                         | 8.11                                                                                         | 25 710                                                                                                                                                                                                     | 14.04                                       | 215 805                                                                       | 123.30                                                                                                          |
| 73-74                                                                      | 24 794                                           | 1 853                            | 74.76                                                                                         | 7.67                                                                                         | 23 868                                                                                                                                                                                                     | 12.88                                       | 190 095                                                                       | 130.38                                                                                                          |
| 74-75                                                                      | 22 941                                           | 1 865                            | 81.28                                                                                         | 7.25                                                                                         | 22 008                                                                                                                                                                                                     | 11.80                                       | 166 227                                                                       | 137.93                                                                                                          |
| 75-76                                                                      | 21 076                                           | 1 865                            | 88.47                                                                                         | 6.84                                                                                         | 20 144                                                                                                                                                                                                     | 10.80                                       | 144 219                                                                       | 146.20                                                                                                          |
| 76-77                                                                      | 19 211                                           | 1 846                            | 96.10                                                                                         | 6.46                                                                                         | 18 288                                                                                                                                                                                                     | 9.91                                        | 124 075                                                                       | 154.80                                                                                                          |
| 77-78                                                                      | 17 365                                           | 1 814                            | 104.18                                                                                        | 6.09                                                                                         | 16 458                                                                                                                                                                                                     | 9.07                                        | 105 787                                                                       | 164.20                                                                                                          |
| 78-79                                                                      | 15 551                                           | 1 767                            | 113.62                                                                                        | 5.74                                                                                         | 14 668                                                                                                                                                                                                     | 8.30                                        | 89 329                                                                        | 174.22                                                                                                          |
| 79-80                                                                      | 13 784                                           | 1 700                            | 123.35                                                                                        | 5.42                                                                                         | 12 934                                                                                                                                                                                                     | 7.61                                        | 74 661                                                                        | 184.50                                                                                                          |
| 80-81                                                                      | 12 084                                           | 1 614                            | 133.57                                                                                        | 5.11                                                                                         | 11 277                                                                                                                                                                                                     | 6.99                                        | 61 727                                                                        | 195.69                                                                                                          |
| 81-82                                                                      | 10 470                                           | 1 510                            | 144.23                                                                                        | 4.82                                                                                         | 9 715                                                                                                                                                                                                      | 6.43                                        | 50 450                                                                        | 207.17                                                                                                          |
| 82-83                                                                      | 8 960                                            | 1 392                            | 155.30                                                                                        | 4.55                                                                                         | 8 264                                                                                                                                                                                                      | 5.94                                        | 40 735                                                                        | 219.78                                                                                                          |
| 83-84                                                                      | 7 568                                            | 1 262                            | 166.79                                                                                        | 4.29                                                                                         | 6 937                                                                                                                                                                                                      | 5.50                                        | 32 471                                                                        | 233.10                                                                                                          |
| 84-85                                                                      | 6 306                                            | 1 127                            | 178.74                                                                                        | 4.05                                                                                         | 5 743                                                                                                                                                                                                      | 5.09                                        | 25 534                                                                        | 246.91                                                                                                          |
| 85-86                                                                      | 5 179                                            | 990                              | 191.20                                                                                        | 3.82                                                                                         | 4 684                                                                                                                                                                                                      | 4.73                                        | 19 791                                                                        | 261.78                                                                                                          |
| 86-87                                                                      | 4 189                                            | 856                              | 204.22                                                                                        | 3.61                                                                                         | 3 761                                                                                                                                                                                                      | 4.40                                        | 15 107                                                                        | 277.01                                                                                                          |
| 87-88                                                                      | 3 333                                            | 726                              | 217.82                                                                                        | 3.40                                                                                         | 2 970                                                                                                                                                                                                      | 4.09                                        | 11 316                                                                        | 294.12                                                                                                          |
| 88-89                                                                      | 2 607                                            | 605                              | 232.00                                                                                        | 3.21                                                                                         | 2 305                                                                                                                                                                                                      | 3.81                                        | 8 376                                                                         | 311.54                                                                                                          |
| 89-90                                                                      | 2 002                                            | 494                              | 246.73                                                                                        | 3.03                                                                                         | 1 755                                                                                                                                                                                                      | 3.55                                        | 6 071                                                                         | 330.03                                                                                                          |
| 90-91                                                                      | 1 508                                            | 395                              | 262.01                                                                                        | 2.86                                                                                         | 1 311                                                                                                                                                                                                      | 3.32                                        | 4 316                                                                         | 349.65                                                                                                          |
| 91-92                                                                      | 1 113                                            | 309                              | 277.87                                                                                        | 2.70                                                                                         | 958                                                                                                                                                                                                        | 3.10                                        | 3 095                                                                         | 379.37                                                                                                          |
| 92-93                                                                      | 804                                              | 237                              | 294.39                                                                                        | 2.55                                                                                         | 686                                                                                                                                                                                                        | 2.90                                        | 2 047                                                                         | 392.16                                                                                                          |
| 93-94                                                                      | 567                                              | 177                              | 311.66                                                                                        | 2.40                                                                                         | 479                                                                                                                                                                                                        | 2.71                                        | 1 361                                                                         | 416.67                                                                                                          |
| 94-95                                                                      | 390                                              | 128                              | 329.82                                                                                        | 2.26                                                                                         | 326                                                                                                                                                                                                        | 2.53                                        | 882                                                                           | 442.48                                                                                                          |
| 95-96                                                                      | 262                                              | 92                               | 348.98                                                                                        | 2.13                                                                                         | 216                                                                                                                                                                                                        | 2.37                                        | 556                                                                           | 469.48                                                                                                          |
| 96-97                                                                      | 170                                              | 63                               | 369.22                                                                                        | 2.00                                                                                         | 139                                                                                                                                                                                                        | 2.21                                        | 310                                                                           | 500.00                                                                                                          |
| 97-98                                                                      | 107                                              | 42                               | 390.59                                                                                        | 1.88                                                                                         | 86                                                                                                                                                                                                         | 2.06                                        | 201                                                                           | 531.91                                                                                                          |
| 98-99                                                                      | 65                                               | 27                               | 413.13                                                                                        | 1.76                                                                                         | 52                                                                                                                                                                                                         | 1.92                                        | 115                                                                           | 568.18                                                                                                          |
| 99-100                                                                     | 38                                               | 16                               | 436.86                                                                                        | 1.65                                                                                         | 30                                                                                                                                                                                                         | 1.79                                        | 63                                                                            | 606.06                                                                                                          |
| 100-101                                                                    | 22                                               | 10                               | 461.83                                                                                        | 1.55                                                                                         | 17                                                                                                                                                                                                         | 1.67                                        | 33                                                                            | 645.16                                                                                                          |
| 101-102                                                                    | 12                                               | 6                                | 488.09                                                                                        | 1.45                                                                                         | 9                                                                                                                                                                                                          | 1.55                                        | 16                                                                            | 689.66                                                                                                          |
| 102-103                                                                    | 6                                                | 3                                | 515.68                                                                                        | 1.35                                                                                         | 4                                                                                                                                                                                                          | 1.44                                        | 7                                                                             | 749.74                                                                                                          |
| 103-104                                                                    | 3                                                | 2                                | 544.65                                                                                        | 1.26                                                                                         | 2                                                                                                                                                                                                          | 1.31                                        | 3                                                                             | 793.65                                                                                                          |
| 104-105                                                                    | 1                                                | 1                                | 575.06                                                                                        | 1.18                                                                                         | 1                                                                                                                                                                                                          | 1.24                                        | 1                                                                             | 847.46                                                                                                          |



## UNITED STATES LIFE TABLES.

TABLE 4

## LIFE TABLE FOR MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (12,177,315), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE INTERVAL.                                                      | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                                                    |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages.                         | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                   | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                                                       | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                                                  | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                       | 7                                     | 8                                                                  | 9                                                                                            |
| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                         |                                       |                                                                    |                                                                                              |
| Months.                                                            |                                            |                               | Monthly rate.                                                                | In years.                                                                        |                                                                                                                                                                                                         | Per month.                            |                                                                    | Annual rate.                                                                                 |
| 0-1                                                                | 100 000                                    | 4 894                         | 48.94                                                                        | 49.86                                                                            | 8 027                                                                                                                                                                                                   | 19.68                                 | 4 986 495                                                          | 20.06                                                                                        |
| 1-2                                                                | 95 106                                     | 1 253                         | 13.17                                                                        | 52.35                                                                            | 7 873                                                                                                                                                                                                   | 75.36                                 | 4 978 468                                                          | 19.10                                                                                        |
| 2-3                                                                | 93 853                                     | 1 023                         | 10.91                                                                        | 52.96                                                                            | 7 778                                                                                                                                                                                                   | 91.20                                 | 4 970 595                                                          | 18.88                                                                                        |
| 3-4                                                                | 92 830                                     | 863                           | 9.29                                                                         | 53.46                                                                            | 7 700                                                                                                                                                                                                   | 107.01                                | 4 962 817                                                          | 18.71                                                                                        |
| 4-5                                                                | 91 967                                     | 755                           | 8.21                                                                         | 53.88                                                                            | 7 632                                                                                                                                                                                                   | 121.32                                | 4 955 117                                                          | 18.56                                                                                        |
| 5-6                                                                | 91 212                                     | 676                           | 7.41                                                                         | 54.24                                                                            | 7 573                                                                                                                                                                                                   | 131.40                                | 4 947 485                                                          | 18.44                                                                                        |
| 6-7                                                                | 90 536                                     | 612                           | 6.76                                                                         | 54.56                                                                            | 7 519                                                                                                                                                                                                   | 147.48                                | 4 939 912                                                          | 18.33                                                                                        |
| 7-8                                                                | 89 924                                     | 562                           | 6.25                                                                         | 54.85                                                                            | 7 470                                                                                                                                                                                                   | 159.48                                | 4 932 393                                                          | 18.23                                                                                        |
| 8-9                                                                | 89 362                                     | 519                           | 5.81                                                                         | 55.11                                                                            | 7 425                                                                                                                                                                                                   | 171.72                                | 4 924 923                                                          | 18.15                                                                                        |
| 9-10                                                               | 88 843                                     | 480                           | 5.40                                                                         | 55.35                                                                            | 7 384                                                                                                                                                                                                   | 184.56                                | 4 917 498                                                          | 18.07                                                                                        |
| 10-11                                                              | 88 363                                     | 441                           | 5.03                                                                         | 55.57                                                                            | 7 345                                                                                                                                                                                                   | 198.48                                | 4 910 114                                                          | 18.00                                                                                        |
| 11-12                                                              | 87 919                                     | 411                           | 4.70                                                                         | 55.76                                                                            | 7 309                                                                                                                                                                                                   | 211.80                                | 4 902 769                                                          | 17.93                                                                                        |
| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.   |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                         |                                       |                                                                    |                                                                                              |
| Years.                                                             |                                            |                               | Annual rate.                                                                 | In years.                                                                        |                                                                                                                                                                                                         | Per year.                             |                                                                    | Annual rate.                                                                                 |
| 0-1                                                                | 100 000                                    | 12 495                        | 124.95                                                                       | 49.86                                                                            | 91 035                                                                                                                                                                                                  | 7.29                                  | 4 986 495                                                          | 20.06                                                                                        |
| 1-2                                                                | 87 505                                     | 2 521                         | 28.82                                                                        | 55.91                                                                            | 86 017                                                                                                                                                                                                  | 34.12                                 | 4 895 460                                                          | 17.88                                                                                        |
| 2-3                                                                | 81 984                                     | 1 108                         | 13.03                                                                        | 56.59                                                                            | 81 397                                                                                                                                                                                                  | 76.47                                 | 4 809 443                                                          | 17.67                                                                                        |
| 3-4                                                                | 83 876                                     | 676                           | 8.07                                                                         | 56.33                                                                            | 83 525                                                                                                                                                                                                  | 123.56                                | 4 725 046                                                          | 17.75                                                                                        |
| 4-5                                                                | 83 200                                     | 482                           | 5.79                                                                         | 55.79                                                                            | 82 919                                                                                                                                                                                                  | 172.09                                | 4 611 521                                                          | 17.92                                                                                        |
| 5-6                                                                | 82 718                                     | 395                           | 4.77                                                                         | 55.11                                                                            | 82 520                                                                                                                                                                                                  | 208.91                                | 4 558 572                                                          | 18.15                                                                                        |
| 6-7                                                                | 82 323                                     | 333                           | 4.05                                                                         | 54.37                                                                            | 82 156                                                                                                                                                                                                  | 246.71                                | 4 476 052                                                          | 18.39                                                                                        |
| 7-8                                                                | 81 990                                     | 283                           | 3.45                                                                         | 53.59                                                                            | 81 848                                                                                                                                                                                                  | 289.22                                | 4 393 896                                                          | 18.66                                                                                        |
| 8-9                                                                | 81 707                                     | 243                           | 2.98                                                                         | 52.77                                                                            | 81 585                                                                                                                                                                                                  | 335.74                                | 4 312 048                                                          | 18.95                                                                                        |
| 9-10                                                               | 81 461                                     | 215                           | 2.63                                                                         | 51.93                                                                            | 81 356                                                                                                                                                                                                  | 378.40                                | 4 230 463                                                          | 19.26                                                                                        |
| 10-11                                                              | 81 249                                     | 196                           | 2.42                                                                         | 51.07                                                                            | 81 151                                                                                                                                                                                                  | 444.01                                | 4 149 107                                                          | 19.58                                                                                        |
| 11-12                                                              | 81 053                                     | 189                           | 2.33                                                                         | 50.19                                                                            | 80 958                                                                                                                                                                                                  | 428.35                                | 4 067 956                                                          | 19.92                                                                                        |
| 12-13                                                              | 80 864                                     | 190                           | 2.35                                                                         | 49.30                                                                            | 80 769                                                                                                                                                                                                  | 425.10                                | 3 986 998                                                          | 20.28                                                                                        |
| 13-14                                                              | 80 674                                     | 199                           | 2.47                                                                         | 48.42                                                                            | 80 575                                                                                                                                                                                                  | 404.90                                | 3 906 229                                                          | 20.65                                                                                        |
| 14-15                                                              | 80 475                                     | 214                           | 2.66                                                                         | 47.54                                                                            | 80 368                                                                                                                                                                                                  | 375.55                                | 3 825 654                                                          | 21.03                                                                                        |
| 15-16                                                              | 80 261                                     | 233                           | 2.91                                                                         | 46.66                                                                            | 80 144                                                                                                                                                                                                  | 343.97                                | 3 745 286                                                          | 21.43                                                                                        |
| 16-17                                                              | 80 028                                     | 260                           | 3.24                                                                         | 45.80                                                                            | 79 898                                                                                                                                                                                                  | 307.30                                | 3 665 142                                                          | 21.83                                                                                        |
| 17-18                                                              | 79 768                                     | 291                           | 3.65                                                                         | 44.95                                                                            | 79 623                                                                                                                                                                                                  | 273.62                                | 3 585 244                                                          | 22.25                                                                                        |
| 18-19                                                              | 79 477                                     | 325                           | 4.09                                                                         | 44.11                                                                            | 79 315                                                                                                                                                                                                  | 244.05                                | 3 505 621                                                          | 22.67                                                                                        |
| 19-20                                                              | 79 152                                     | 360                           | 4.55                                                                         | 43.29                                                                            | 78 972                                                                                                                                                                                                  | 219.37                                | 3 426 306                                                          | 23.10                                                                                        |
| 20-21                                                              | 78 792                                     | 396                           | 5.03                                                                         | 42.48                                                                            | 78 594                                                                                                                                                                                                  | 198.47                                | 3 347 334                                                          | 23.54                                                                                        |
| 21-22                                                              | 78 396                                     | 422                           | 5.38                                                                         | 41.70                                                                            | 78 185                                                                                                                                                                                                  | 185.27                                | 3 268 740                                                          | 23.98                                                                                        |
| 22-23                                                              | 77 974                                     | 431                           | 5.54                                                                         | 40.92                                                                            | 77 758                                                                                                                                                                                                  | 180.41                                | 3 190 555                                                          | 24.44                                                                                        |
| 23-24                                                              | 77 513                                     | 433                           | 5.58                                                                         | 40.14                                                                            | 77 326                                                                                                                                                                                                  | 178.58                                | 3 112 797                                                          | 24.91                                                                                        |
| 24-25                                                              | 77 110                                     | 435                           | 5.65                                                                         | 39.37                                                                            | 76 892                                                                                                                                                                                                  | 176.76                                | 3 035 471                                                          | 25.40                                                                                        |
| 25-26                                                              | 76 675                                     | 438                           | 5.71                                                                         | 38.59                                                                            | 76 456                                                                                                                                                                                                  | 174.56                                | 2 958 579                                                          | 25.91                                                                                        |
| 26-27                                                              | 76 237                                     | 443                           | 5.81                                                                         | 37.80                                                                            | 76 015                                                                                                                                                                                                  | 171.59                                | 2 882 123                                                          | 26.46                                                                                        |
| 27-28                                                              | 75 794                                     | 455                           | 6.00                                                                         | 37.02                                                                            | 75 567                                                                                                                                                                                                  | 166.08                                | 2 806 108                                                          | 27.01                                                                                        |
| 28-29                                                              | 75 339                                     | 472                           | 6.26                                                                         | 36.24                                                                            | 75 103                                                                                                                                                                                                  | 159.12                                | 2 730 541                                                          | 27.59                                                                                        |
| 29-30                                                              | 74 867                                     | 489                           | 6.53                                                                         | 35.47                                                                            | 74 623                                                                                                                                                                                                  | 152.60                                | 2 655 438                                                          | 28.19                                                                                        |
| 30-31                                                              | 74 378                                     | 506                           | 6.81                                                                         | 34.70                                                                            | 74 125                                                                                                                                                                                                  | 146.49                                | 2 580 815                                                          | 28.82                                                                                        |
| 31-32                                                              | 73 872                                     | 528                           | 7.15                                                                         | 33.93                                                                            | 73 608                                                                                                                                                                                                  | 139.41                                | 2 506 690                                                          | 29.47                                                                                        |
| 32-33                                                              | 73 344                                     | 552                           | 7.53                                                                         | 33.17                                                                            | 73 068                                                                                                                                                                                                  | 132.37                                | 2 433 082                                                          | 30.15                                                                                        |
| 33-34                                                              | 72 792                                     | 577                           | 7.93                                                                         | 32.42                                                                            | 72 503                                                                                                                                                                                                  | 125.66                                | 2 360 014                                                          | 30.85                                                                                        |
| 34-35                                                              | 72 215                                     | 601                           | 8.33                                                                         | 31.68                                                                            | 71 914                                                                                                                                                                                                  | 119.66                                | 2 287 511                                                          | 31.57                                                                                        |
| 35-36                                                              | 71 614                                     | 626                           | 8.74                                                                         | 30.94                                                                            | 71 301                                                                                                                                                                                                  | 113.90                                | 2 215 597                                                          | 32.32                                                                                        |
| 36-37                                                              | 70 988                                     | 647                           | 9.12                                                                         | 30.21                                                                            | 70 661                                                                                                                                                                                                  | 109.22                                | 2 144 296                                                          | 33.10                                                                                        |
| 37-38                                                              | 70 311                                     | 665                           | 9.45                                                                         | 29.48                                                                            | 70 008                                                                                                                                                                                                  | 105.28                                | 2 073 632                                                          | 33.92                                                                                        |
| 38-39                                                              | 69 676                                     | 681                           | 9.77                                                                         | 28.76                                                                            | 69 335                                                                                                                                                                                                  | 101.81                                | 2 003 624                                                          | 34.77                                                                                        |
| 39-40                                                              | 68 995                                     | 698                           | 10.11                                                                        | 28.04                                                                            | 68 646                                                                                                                                                                                                  | 98.35                                 | 1 934 289                                                          | 35.66                                                                                        |
| 40-41                                                              | 68 297                                     | 714                           | 10.46                                                                        | 27.32                                                                            | 67 940                                                                                                                                                                                                  | 95.15                                 | 1 865 613                                                          | 36.60                                                                                        |
| 41-42                                                              | 67 583                                     | 733                           | 10.85                                                                        | 26.60                                                                            | 67 216                                                                                                                                                                                                  | 91.70                                 | 1 797 703                                                          | 37.59                                                                                        |
| 42-43                                                              | 66 850                                     | 754                           | 11.27                                                                        | 25.89                                                                            | 66 473                                                                                                                                                                                                  | 88.16                                 | 1 730 487                                                          | 38.62                                                                                        |
| 43-44                                                              | 66 096                                     | 777                           | 11.75                                                                        | 25.18                                                                            | 65 708                                                                                                                                                                                                  | 84.57                                 | 1 664 014                                                          | 39.71                                                                                        |
| 44-45                                                              | 65 319                                     | 801                           | 12.27                                                                        | 24.47                                                                            | 64 919                                                                                                                                                                                                  | 81.05                                 | 1 598 306                                                          | 40.87                                                                                        |

## ORIGINAL REGISTRATION STATES: 1910.

TABLE 4

REPORTED DEATHS IN 1909 (188,197), IN 1910 (201,173), AND IN 1911 (196,681).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE<br>INTERVAL.                                                           | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION                                                                                                                                               |                                             |                                                                               |                                                                                                                 |
|----------------------------------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                                            |                                                  |                                  |                                                                                               |                                                                                              | Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|                                                                            | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages.                        |                                                  |                                  |                                                                                               |                                                                                              | Including only<br>those in current<br>month or year<br>of age.                                                                                                           | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                                               | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                    | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                                          | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                        | 7                                           | 8                                                                             | 9                                                                                                               |
| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |                                                  |                                  |                                                                                               |                                                                                              |                                                                                                                                                                          |                                             |                                                                               |                                                                                                                 |
| Years.                                                                     |                                                  |                                  | Annual rate.                                                                                  | In years.                                                                                    |                                                                                                                                                                          | Per year.                                   |                                                                               | Annual rate.                                                                                                    |
| 45-46                                                                      | 64 518                                           | 829                              | 12.84                                                                                         | 23.77                                                                                        | 64 104                                                                                                                                                                   | 77.33                                       | 1 533 387                                                                     | 42.07                                                                                                           |
| 46-47                                                                      | 63 689                                           | 856                              | 13.45                                                                                         | 23.07                                                                                        | 63 261                                                                                                                                                                   | 73.90                                       | 1 469 283                                                                     | 43.35                                                                                                           |
| 47-48                                                                      | 62 833                                           | 882                              | 14.04                                                                                         | 22.38                                                                                        | 62 392                                                                                                                                                                   | 70.74                                       | 1 406 022                                                                     | 44.68                                                                                                           |
| 48-49                                                                      | 61 951                                           | 905                              | 14.61                                                                                         | 21.69                                                                                        | 61 498                                                                                                                                                                   | 67.95                                       | 1 343 630                                                                     | 46.10                                                                                                           |
| 49-50                                                                      | 61 046                                           | 928                              | 15.21                                                                                         | 21.00                                                                                        | 60 582                                                                                                                                                                   | 65.28                                       | 1 282 132                                                                     | 47.62                                                                                                           |
| 50-51                                                                      | 60 118                                           | 951                              | 15.81                                                                                         | 20.32                                                                                        | 59 642                                                                                                                                                                   | 62.72                                       | 1 221 550                                                                     | 49.21                                                                                                           |
| 51-52                                                                      | 59 167                                           | 978                              | 16.54                                                                                         | 19.64                                                                                        | 58 678                                                                                                                                                                   | 60.00                                       | 1 161 908                                                                     | 50.92                                                                                                           |
| 52-53                                                                      | 58 189                                           | 1 019                            | 17.50                                                                                         | 18.96                                                                                        | 57 680                                                                                                                                                                   | 56.60                                       | 1 103 230                                                                     | 52.74                                                                                                           |
| 53-54                                                                      | 57 170                                           | 1 071                            | 18.74                                                                                         | 18.29                                                                                        | 56 635                                                                                                                                                                   | 52.88                                       | 1 045 550                                                                     | 54.67                                                                                                           |
| 54-55                                                                      | 56 099                                           | 1 129                            | 20.14                                                                                         | 17.63                                                                                        | 55 535                                                                                                                                                                   | 49.19                                       | 988 915                                                                       | 56.72                                                                                                           |
| 55-56                                                                      | 54 970                                           | 1 197                            | 21.78                                                                                         | 16.98                                                                                        | 54 371                                                                                                                                                                   | 45.42                                       | 933 380                                                                       | 58.89                                                                                                           |
| 56-57                                                                      | 53 773                                           | 1 268                            | 23.58                                                                                         | 16.35                                                                                        | 53 139                                                                                                                                                                   | 41.91                                       | 879 009                                                                       | 61.16                                                                                                           |
| 57-58                                                                      | 52 505                                           | 1 332                            | 25.36                                                                                         | 15.73                                                                                        | 51 839                                                                                                                                                                   | 38.92                                       | 825 870                                                                       | 63.57                                                                                                           |
| 58-59                                                                      | 51 173                                           | 1 386                            | 27.10                                                                                         | 15.13                                                                                        | 50 480                                                                                                                                                                   | 36.12                                       | 774 031                                                                       | 66.09                                                                                                           |
| 59-60                                                                      | 49 787                                           | 1 444                            | 29.00                                                                                         | 14.53                                                                                        | 49 065                                                                                                                                                                   | 33.98                                       | 723 551                                                                       | 68.82                                                                                                           |
| 60-61                                                                      | 48 343                                           | 1 501                            | 31.04                                                                                         | 13.95                                                                                        | 47 593                                                                                                                                                                   | 31.71                                       | 674 486                                                                       | 71.68                                                                                                           |
| 61-62                                                                      | 46 842                                           | 1 557                            | 33.24                                                                                         | 13.38                                                                                        | 46 064                                                                                                                                                                   | 29.69                                       | 626 893                                                                       | 74.74                                                                                                           |
| 62-63                                                                      | 45 285                                           | 1 616                            | 35.70                                                                                         | 12.83                                                                                        | 44 477                                                                                                                                                                   | 27.82                                       | 580 829                                                                       | 77.94                                                                                                           |
| 63-64                                                                      | 43 669                                           | 1 676                            | 38.38                                                                                         | 12.28                                                                                        | 42 831                                                                                                                                                                   | 25.66                                       | 536 352                                                                       | 81.43                                                                                                           |
| 64-65                                                                      | 41 993                                           | 1 729                            | 41.16                                                                                         | 11.75                                                                                        | 41 128                                                                                                                                                                   | 23.79                                       | 493 521                                                                       | 85.11                                                                                                           |
| 65-66                                                                      | 40 264                                           | 1 774                            | 44.06                                                                                         | 11.24                                                                                        | 39 377                                                                                                                                                                   | 22.20                                       | 452 393                                                                       | 88.97                                                                                                           |
| 66-67                                                                      | 38 490                                           | 1 814                            | 47.14                                                                                         | 10.73                                                                                        | 37 583                                                                                                                                                                   | 20.72                                       | 413 016                                                                       | 93.20                                                                                                           |
| 67-68                                                                      | 36 676                                           | 1 852                            | 50.49                                                                                         | 10.24                                                                                        | 35 750                                                                                                                                                                   | 19.30                                       | 375 433                                                                       | 97.66                                                                                                           |
| 68-69                                                                      | 34 824                                           | 1 886                            | 54.17                                                                                         | 9.75                                                                                         | 33 881                                                                                                                                                                   | 17.96                                       | 339 683                                                                       | 102.56                                                                                                          |
| 69-70                                                                      | 32 938                                           | 1 915                            | 58.14                                                                                         | 9.28                                                                                         | 31 980                                                                                                                                                                   | 16.70                                       | 305 802                                                                       | 107.76                                                                                                          |
| 70-71                                                                      | 31 023                                           | 1 936                            | 62.40                                                                                         | 8.83                                                                                         | 30 055                                                                                                                                                                   | 15.52                                       | 273 822                                                                       | 113.25                                                                                                          |
| 71-72                                                                      | 29 087                                           | 1 953                            | 67.16                                                                                         | 8.38                                                                                         | 28 110                                                                                                                                                                   | 14.39                                       | 243 767                                                                       | 119.33                                                                                                          |
| 72-73                                                                      | 27 134                                           | 1 969                            | 72.55                                                                                         | 7.93                                                                                         | 26 149                                                                                                                                                                   | 13.28                                       | 215 657                                                                       | 125.79                                                                                                          |
| 73-74                                                                      | 25 165                                           | 1 977                            | 78.55                                                                                         | 7.53                                                                                         | 24 177                                                                                                                                                                   | 12.23                                       | 189 508                                                                       | 132.80                                                                                                          |
| 74-75                                                                      | 23 188                                           | 1 975                            | 85.20                                                                                         | 7.13                                                                                         | 22 201                                                                                                                                                                   | 11.24                                       | 165 331                                                                       | 140.25                                                                                                          |
| 75-76                                                                      | 21 213                                           | 1 967                            | 92.72                                                                                         | 6.75                                                                                         | 20 229                                                                                                                                                                   | 10.28                                       | 143 130                                                                       | 148.15                                                                                                          |
| 76-77                                                                      | 19 246                                           | 1 935                            | 100.53                                                                                        | 6.39                                                                                         | 18 279                                                                                                                                                                   | 9.45                                        | 122 901                                                                       | 156.19                                                                                                          |
| 77-78                                                                      | 17 311                                           | 1 873                            | 108.19                                                                                        | 6.04                                                                                         | 16 375                                                                                                                                                                   | 8.74                                        | 104 622                                                                       | 165.56                                                                                                          |
| 78-79                                                                      | 15 438                                           | 1 790                            | 115.97                                                                                        | 5.72                                                                                         | 14 543                                                                                                                                                                   | 8.12                                        | 88 247                                                                        | 174.83                                                                                                          |
| 79-80                                                                      | 13 648                                           | 1 706                            | 124.99                                                                                        | 5.40                                                                                         | 12 795                                                                                                                                                                   | 7.60                                        | 73 704                                                                        | 185.19                                                                                                          |
| 80-81                                                                      | 11 942                                           | 1 620                            | 135.64                                                                                        | 5.10                                                                                         | 11 132                                                                                                                                                                   | 6.87                                        | 60 909                                                                        | 196.08                                                                                                          |
| 81-82                                                                      | 10 322                                           | 1 518                            | 147.05                                                                                        | 4.82                                                                                         | 9 563                                                                                                                                                                    | 6.30                                        | 49 777                                                                        | 207.47                                                                                                          |
| 82-83                                                                      | 8 804                                            | 1 391                            | 158.05                                                                                        | 4.57                                                                                         | 8 108                                                                                                                                                                    | 5.83                                        | 40 214                                                                        | 218.82                                                                                                          |
| 83-84                                                                      | 7 413                                            | 1 248                            | 168.29                                                                                        | 4.33                                                                                         | 6 789                                                                                                                                                                    | 5.44                                        | 32 106                                                                        | 230.95                                                                                                          |
| 84-85                                                                      | 6 165                                            | 1 106                            | 179.38                                                                                        | 4.11                                                                                         | 5 612                                                                                                                                                                    | 5.07                                        | 25 317                                                                        | 243.31                                                                                                          |
| 85-86                                                                      | 5 059                                            | 966                              | 190.94                                                                                        | 3.90                                                                                         | 4 576                                                                                                                                                                    | 4.74                                        | 19 705                                                                        | 256.41                                                                                                          |
| 86-87                                                                      | 4 093                                            | 830                              | 202.80                                                                                        | 3.70                                                                                         | 3 678                                                                                                                                                                    | 4.43                                        | 15 129                                                                        | 270.27                                                                                                          |
| 87-88                                                                      | 3 263                                            | 701                              | 215.02                                                                                        | 3.51                                                                                         | 2 912                                                                                                                                                                    | 4.15                                        | 11 451                                                                        | 284.90                                                                                                          |
| 88-89                                                                      | 2 562                                            | 581                              | 227.64                                                                                        | 3.33                                                                                         | 2 270                                                                                                                                                                    | 3.89                                        | 8 539                                                                         | 300.30                                                                                                          |
| 89-90                                                                      | 1 978                                            | 476                              | 240.61                                                                                        | 3.17                                                                                         | 1 740                                                                                                                                                                    | 3.66                                        | 6 269                                                                         | 315.16                                                                                                          |
| 90-91                                                                      | 1 502                                            | 381                              | 253.85                                                                                        | 3.01                                                                                         | 1 312                                                                                                                                                                    | 3.44                                        | 4 529                                                                         | 332.23                                                                                                          |
| 91-92                                                                      | 1 121                                            | 300                              | 267.21                                                                                        | 2.87                                                                                         | 971                                                                                                                                                                      | 3.24                                        | 3 217                                                                         | 348.43                                                                                                          |
| 92-93                                                                      | 821                                              | 230                              | 280.62                                                                                        | 2.73                                                                                         | 706                                                                                                                                                                      | 3.06                                        | 2 246                                                                         | 366.30                                                                                                          |
| 93-94                                                                      | 591                                              | 174                              | 294.09                                                                                        | 2.61                                                                                         | 504                                                                                                                                                                      | 2.90                                        | 1 540                                                                         | 383.11                                                                                                          |
| 94-95                                                                      | 417                                              | 128                              | 307.73                                                                                        | 2.48                                                                                         | 353                                                                                                                                                                      | 2.75                                        | 1 036                                                                         | 403.23                                                                                                          |
| 95-96                                                                      | 289                                              | 93                               | 321.76                                                                                        | 2.36                                                                                         | 242                                                                                                                                                                      | 2.61                                        | 683                                                                           | 423.73                                                                                                          |
| 96-97                                                                      | 196                                              | 66                               | 336.19                                                                                        | 2.25                                                                                         | 163                                                                                                                                                                      | 2.47                                        | 441                                                                           | 444.41                                                                                                          |
| 97-98                                                                      | 130                                              | 46                               | 352.21                                                                                        | 2.13                                                                                         | 107                                                                                                                                                                      | 2.34                                        | 278                                                                           | 469.48                                                                                                          |
| 98-99                                                                      | 84                                               | 31                               | 369.18                                                                                        | 2.02                                                                                         | 69                                                                                                                                                                       | 2.21                                        | 171                                                                           | 495.05                                                                                                          |
| 99-100                                                                     | 53                                               | 20                               | 387.19                                                                                        | 1.91                                                                                         | 43                                                                                                                                                                       | 2.08                                        | 102                                                                           | 523.56                                                                                                          |
| 100-101                                                                    | 33                                               | 14                               | 407.20                                                                                        | 1.81                                                                                         | 26                                                                                                                                                                       | 1.96                                        | 59                                                                            | 552.19                                                                                                          |
| 101-102                                                                    | 19                                               | 8                                | 428.09                                                                                        | 1.70                                                                                         | 15                                                                                                                                                                       | 1.84                                        | 33                                                                            | 588.24                                                                                                          |
| 102-103                                                                    | 11                                               | 5                                | 450.30                                                                                        | 1.60                                                                                         | 9                                                                                                                                                                        | 1.72                                        | 18                                                                            | 625.00                                                                                                          |
| 103-104                                                                    | 6                                                | 3                                | 473.98                                                                                        | 1.51                                                                                         | 5                                                                                                                                                                        | 1.61                                        | 9                                                                             | 662.25                                                                                                          |
| 104-105                                                                    | 3                                                | 1                                | 499.26                                                                                        | 1.41                                                                                         | 2                                                                                                                                                                        | 1.50                                        | 4                                                                             | 709.22                                                                                                          |
| 105-106                                                                    | 2                                                | 1                                | 526.33                                                                                        | 1.32                                                                                         | 1                                                                                                                                                                        | 1.40                                        | 2                                                                             | 757.58                                                                                                          |
| 106-107                                                                    | 1                                                | 1                                | 555.37                                                                                        | 1.23                                                                                         | 1                                                                                                                                                                        | 1.30                                        | 1                                                                             | 813.01                                                                                                          |

TABLE 5

## LIFE TABLE FOR FEMALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (10,186,857), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE<br>INTERVAL.                                                   | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|--------------------------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                                    |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
|                                                                    | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                                       | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                                  | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |
| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |                                                  |                                  |                                                                                               |                                                                                              |                                                                                                                                                                                                                |                                             |                                                                               |                                                                                                                 |
| Months.                                                            |                                                  |                                  | Monthly rate.                                                                                 | In years.                                                                                    |                                                                                                                                                                                                                | Per month.                                  |                                                                               | Annual rate.                                                                                                    |
| 0-1                                                                | 100 000                                          | 3 556                            | 35.56                                                                                         | 50.70                                                                                        | 8 111                                                                                                                                                                                                          | 27.36                                       | 5 069 984                                                                     | 19.72                                                                                                           |
| 1-2                                                                | 96 444                                           | 1 012                            | 10.50                                                                                         | 52.19                                                                                        | 7 995                                                                                                                                                                                                          | 94.80                                       | 5 061 873                                                                     | 19.05                                                                                                           |
| 2-3                                                                | 95 432                                           | 937                              | 9.82                                                                                          | 52.96                                                                                        | 7 914                                                                                                                                                                                                          | 101.40                                      | 5 053 878                                                                     | 18.88                                                                                                           |
| 3-4                                                                | 94 495                                           | 869                              | 9.19                                                                                          | 53.40                                                                                        | 7 838                                                                                                                                                                                                          | 108.24                                      | 5 045 961                                                                     | 18.73                                                                                                           |
| 4-5                                                                | 93 626                                           | 801                              | 8.59                                                                                          | 53.81                                                                                        | 7 769                                                                                                                                                                                                          | 115.92                                      | 5 038 126                                                                     | 18.58                                                                                                           |
| 5-6                                                                | 92 822                                           | 742                              | 8.00                                                                                          | 54.19                                                                                        | 7 704                                                                                                                                                                                                          | 124.56                                      | 5 030 357                                                                     | 18.45                                                                                                           |
| 6-7                                                                | 92 080                                           | 682                              | 7.41                                                                                          | 54.55                                                                                        | 7 645                                                                                                                                                                                                          | 134.52                                      | 5 022 653                                                                     | 18.33                                                                                                           |
| 7-8                                                                | 91 398                                           | 625                              | 6.83                                                                                          | 54.87                                                                                        | 7 590                                                                                                                                                                                                          | 145.68                                      | 5 015 008                                                                     | 18.22                                                                                                           |
| 8-9                                                                | 90 773                                           | 570                              | 6.29                                                                                          | 55.16                                                                                        | 7 541                                                                                                                                                                                                          | 158.76                                      | 5 007 418                                                                     | 18.13                                                                                                           |
| 9-10                                                               | 90 203                                           | 525                              | 5.82                                                                                          | 55.43                                                                                        | 7 495                                                                                                                                                                                                          | 171.36                                      | 4 999 877                                                                     | 18.04                                                                                                           |
| 10-11                                                              | 89 678                                           | 486                              | 5.42                                                                                          | 55.67                                                                                        | 7 453                                                                                                                                                                                                          | 184.08                                      | 4 992 382                                                                     | 17.96                                                                                                           |
| 11-12                                                              | 89 192                                           | 459                              | 5.15                                                                                          | 55.89                                                                                        | 7 414                                                                                                                                                                                                          | 193.80                                      | 4 984 929                                                                     | 17.89                                                                                                           |
| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.   |                                                  |                                  |                                                                                               |                                                                                              |                                                                                                                                                                                                                |                                             |                                                                               |                                                                                                                 |
| Years.                                                             |                                                  |                                  | Annual rate.                                                                                  | In years.                                                                                    |                                                                                                                                                                                                                | Per year.                                   |                                                                               | Annual rate.                                                                                                    |
| 0-1                                                                | 100 000                                          | 11 267                           | 112.67                                                                                        | 50.70                                                                                        | 92 469                                                                                                                                                                                                         | 8.21                                        | 5 069 984                                                                     | 19.72                                                                                                           |
| 1-2                                                                | 88 733                                           | 2 825                            | 31.84                                                                                         | 56.10                                                                                        | 87 066                                                                                                                                                                                                         | 30.82                                       | 4 977 515                                                                     | 17.82                                                                                                           |
| 2-3                                                                | 85 908                                           | 1 305                            | 15.19                                                                                         | 56.93                                                                                        | 85 216                                                                                                                                                                                                         | 65.30                                       | 4 890 449                                                                     | 17.57                                                                                                           |
| 3-4                                                                | 84 603                                           | 840                              | 9.93                                                                                          | 56.80                                                                                        | 84 166                                                                                                                                                                                                         | 100.20                                      | 4 805 233                                                                     | 17.61                                                                                                           |
| 4-5                                                                | 83 763                                           | 644                              | 7.69                                                                                          | 56.36                                                                                        | 83 428                                                                                                                                                                                                         | 129.55                                      | 4 721 067                                                                     | 17.74                                                                                                           |
| 5-6                                                                | 83 119                                           | 496                              | 5.97                                                                                          | 55.80                                                                                        | 82 871                                                                                                                                                                                                         | 167.08                                      | 4 637 639                                                                     | 17.92                                                                                                           |
| 6-7                                                                | 82 623                                           | 404                              | 4.88                                                                                          | 55.13                                                                                        | 82 421                                                                                                                                                                                                         | 204.01                                      | 4 554 768                                                                     | 18.14                                                                                                           |
| 7-8                                                                | 82 219                                           | 328                              | 3.99                                                                                          | 54.40                                                                                        | 82 055                                                                                                                                                                                                         | 250.17                                      | 4 472 347                                                                     | 18.38                                                                                                           |
| 8-9                                                                | 81 891                                           | 270                              | 3.31                                                                                          | 53.61                                                                                        | 81 756                                                                                                                                                                                                         | 302.80                                      | 4 390 292                                                                     | 18.65                                                                                                           |
| 9-10                                                               | 81 621                                           | 231                              | 2.83                                                                                          | 52.79                                                                                        | 81 505                                                                                                                                                                                                         | 352.84                                      | 4 308 536                                                                     | 18.94                                                                                                           |
| 10-11                                                              | 81 390                                           | 208                              | 2.55                                                                                          | 51.94                                                                                        | 81 286                                                                                                                                                                                                         | 390.90                                      | 4 227 031                                                                     | 19.25                                                                                                           |
| 11-12                                                              | 81 182                                           | 200                              | 2.46                                                                                          | 51.07                                                                                        | 81 082                                                                                                                                                                                                         | 496.41                                      | 4 145 745                                                                     | 19.58                                                                                                           |
| 12-13                                                              | 80 982                                           | 205                              | 2.53                                                                                          | 50.19                                                                                        | 80 880                                                                                                                                                                                                         | 594.54                                      | 4 061 663                                                                     | 19.92                                                                                                           |
| 13-14                                                              | 80 777                                           | 221                              | 2.75                                                                                          | 49.32                                                                                        | 80 667                                                                                                                                                                                                         | 665.01                                      | 3 983 783                                                                     | 20.28                                                                                                           |
| 14-15                                                              | 80 556                                           | 249                              | 3.08                                                                                          | 48.45                                                                                        | 80 431                                                                                                                                                                                                         | 823.02                                      | 3 903 116                                                                     | 20.64                                                                                                           |
| 15-16                                                              | 80 307                                           | 283                              | 3.52                                                                                          | 47.60                                                                                        | 80 166                                                                                                                                                                                                         | 1041.27                                     | 3 822 685                                                                     | 21.01                                                                                                           |
| 16-17                                                              | 80 024                                           | 319                              | 3.99                                                                                          | 46.77                                                                                        | 79 865                                                                                                                                                                                                         | 1260.36                                     | 3 742 519                                                                     | 21.38                                                                                                           |
| 17-18                                                              | 79 705                                           | 352                              | 4.42                                                                                          | 45.95                                                                                        | 79 529                                                                                                                                                                                                         | 1485.93                                     | 3 662 654                                                                     | 21.76                                                                                                           |
| 18-19                                                              | 79 353                                           | 383                              | 4.83                                                                                          | 45.15                                                                                        | 79 161                                                                                                                                                                                                         | 1728.69                                     | 3 583 125                                                                     | 22.15                                                                                                           |
| 19-20                                                              | 78 970                                           | 415                              | 5.26                                                                                          | 44.37                                                                                        | 78 762                                                                                                                                                                                                         | 1989.79                                     | 3 503 964                                                                     | 22.54                                                                                                           |
| 20-21                                                              | 78 555                                           | 449                              | 5.71                                                                                          | 43.60                                                                                        | 78 331                                                                                                                                                                                                         | 2268.16                                     | 3 425 202                                                                     | 22.94                                                                                                           |
| 21-22                                                              | 78 106                                           | 474                              | 6.08                                                                                          | 42.85                                                                                        | 77 869                                                                                                                                                                                                         | 2564.28                                     | 3 346 871                                                                     | 23.34                                                                                                           |
| 22-23                                                              | 77 632                                           | 493                              | 6.31                                                                                          | 42.11                                                                                        | 77 385                                                                                                                                                                                                         | 2878.97                                     | 3 269 002                                                                     | 23.75                                                                                                           |
| 23-24                                                              | 77 139                                           | 501                              | 6.54                                                                                          | 41.37                                                                                        | 76 887                                                                                                                                                                                                         | 3212.55                                     | 3 191 617                                                                     | 24.17                                                                                                           |
| 24-25                                                              | 76 635                                           | 516                              | 6.73                                                                                          | 40.61                                                                                        | 76 377                                                                                                                                                                                                         | 3565.02                                     | 3 114 730                                                                     | 24.61                                                                                                           |
| 25-26                                                              | 76 119                                           | 526                              | 6.91                                                                                          | 39.92                                                                                        | 75 856                                                                                                                                                                                                         | 3936.21                                     | 3 038 353                                                                     | 25.05                                                                                                           |
| 26-27                                                              | 75 593                                           | 535                              | 7.08                                                                                          | 39.19                                                                                        | 75 326                                                                                                                                                                                                         | 4326.80                                     | 2 962 497                                                                     | 25.52                                                                                                           |
| 27-28                                                              | 75 058                                           | 545                              | 7.26                                                                                          | 38.47                                                                                        | 74 786                                                                                                                                                                                                         | 4737.22                                     | 2 887 171                                                                     | 25.99                                                                                                           |
| 28-29                                                              | 74 513                                           | 555                              | 7.44                                                                                          | 37.74                                                                                        | 74 236                                                                                                                                                                                                         | 5168.76                                     | 2 812 385                                                                     | 26.50                                                                                                           |
| 29-30                                                              | 73 958                                           | 561                              | 7.63                                                                                          | 37.02                                                                                        | 73 676                                                                                                                                                                                                         | 5621.63                                     | 2 738 149                                                                     | 27.01                                                                                                           |
| 30-31                                                              | 73 394                                           | 574                              | 7.82                                                                                          | 36.30                                                                                        | 73 107                                                                                                                                                                                                         | 6096.36                                     | 2 664 473                                                                     | 27.55                                                                                                           |
| 31-32                                                              | 72 820                                           | 582                              | 8.00                                                                                          | 35.59                                                                                        | 72 529                                                                                                                                                                                                         | 6593.62                                     | 2 591 366                                                                     | 28.10                                                                                                           |
| 32-33                                                              | 72 238                                           | 588                              | 8.11                                                                                          | 34.87                                                                                        | 71 944                                                                                                                                                                                                         | 7113.04                                     | 2 518 837                                                                     | 28.68                                                                                                           |
| 33-34                                                              | 71 650                                           | 592                              | 8.26                                                                                          | 34.15                                                                                        | 71 351                                                                                                                                                                                                         | 7655.59                                     | 2 446 893                                                                     | 29.28                                                                                                           |
| 34-35                                                              | 71 058                                           | 595                              | 8.38                                                                                          | 33.43                                                                                        | 70 761                                                                                                                                                                                                         | 8220.01                                     | 2 375 539                                                                     | 29.91                                                                                                           |
| 35-36                                                              | 70 463                                           | 599                              | 8.49                                                                                          | 32.71                                                                                        | 70 164                                                                                                                                                                                                         | 8807.14                                     | 2 304 778                                                                     | 30.57                                                                                                           |
| 36-37                                                              | 69 861                                           | 602                              | 8.63                                                                                          | 31.99                                                                                        | 69 563                                                                                                                                                                                                         | 9417.55                                     | 2 234 614                                                                     | 31.26                                                                                                           |
| 37-38                                                              | 69 262                                           | 610                              | 8.80                                                                                          | 31.26                                                                                        | 68 957                                                                                                                                                                                                         | 10051.04                                    | 2 165 051                                                                     | 31.99                                                                                                           |
| 38-39                                                              | 68 652                                           | 618                              | 9.00                                                                                          | 30.53                                                                                        | 68 343                                                                                                                                                                                                         | 10708.59                                    | 2 096 094                                                                     | 32.75                                                                                                           |
| 39-40                                                              | 68 034                                           | 627                              | 9.21                                                                                          | 29.80                                                                                        | 67 721                                                                                                                                                                                                         | 11390.01                                    | 2 027 751                                                                     | 33.56                                                                                                           |
| 40-41                                                              | 67 407                                           | 636                              | 9.45                                                                                          | 29.08                                                                                        | 67 099                                                                                                                                                                                                         | 12095.40                                    | 1 960 030                                                                     | 34.39                                                                                                           |
| 41-42                                                              | 66 771                                           | 647                              | 9.69                                                                                          | 28.35                                                                                        | 66 477                                                                                                                                                                                                         | 12826.70                                    | 1 892 911                                                                     | 35.27                                                                                                           |
| 42-43                                                              | 66 124                                           | 656                              | 9.92                                                                                          | 27.62                                                                                        | 65 856                                                                                                                                                                                                         | 13584.30                                    | 1 826 494                                                                     | 36.21                                                                                                           |
| 43-44                                                              | 65 468                                           | 667                              | 10.18                                                                                         | 26.89                                                                                        | 65 234                                                                                                                                                                                                         | 14368.65                                    | 1 760 698                                                                     | 37.19                                                                                                           |
| 44-45                                                              | 64 801                                           | 680                              | 10.49                                                                                         | 26.17                                                                                        | 64 611                                                                                                                                                                                                         | 15180.80                                    | 1 695 564                                                                     | 38.21                                                                                                           |

## ORIGINAL REGISTRATION STATES: 1901.

TABLE 5

REPORTED DEATHS IN 1900 (164,201), IN 1901 (157,336), AND IN 1902 (149,997).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE<br>INTERVAL.                                    | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 64 121 | 695   | 10.85        | 25.44     | 63 774 | 91.76     | 1 631 103 | 39.31        |
| 46-47                                                                      | 63 426 | 715   | 11.28        | 24.71     | 63 068 | 88.21     | 1 567 329 | 40.47        |
| 47-48                                                                      | 62 711 | 739   | 11.78        | 23.99     | 62 341 | 84.36     | 1 504 261 | 41.68        |
| 48-49                                                                      | 61 972 | 765   | 12.35        | 23.27     | 61 589 | 80.51     | 1 441 920 | 42.97        |
| 49-50                                                                      | 61 207 | 792   | 12.94        | 22.55     | 60 811 | 76.78     | 1 380 331 | 44.35        |
| 50-51                                                                      | 60 415 | 820   | 13.57        | 21.84     | 60 005 | 73.18     | 1 319 520 | 45.79        |
| 51-52                                                                      | 59 595 | 852   | 14.30        | 21.13     | 59 169 | 69.45     | 1 259 515 | 47.33        |
| 52-53                                                                      | 58 743 | 894   | 15.21        | 20.43     | 58 296 | 65.21     | 1 200 346 | 48.95        |
| 53-54                                                                      | 57 849 | 944   | 16.32        | 19.71     | 57 377 | 60.78     | 1 142 050 | 50.66        |
| 54-55                                                                      | 56 905 | 997   | 17.53        | 19.06     | 56 407 | 56.58     | 1 084 673 | 52.47        |
| 55-56                                                                      | 55 908 | 1 057 | 18.91        | 18.39     | 55 379 | 52.39     | 1 028 266 | 54.38        |
| 56-57                                                                      | 54 851 | 1 113 | 20.30        | 17.74     | 54 294 | 48.78     | 972 887   | 56.37        |
| 57-58                                                                      | 53 738 | 1 158 | 21.54        | 17.09     | 53 159 | 45.91     | 918 593   | 58.51        |
| 58-59                                                                      | 52 580 | 1 194 | 22.70        | 16.46     | 51 983 | 43.54     | 865 434   | 60.75        |
| 59-60                                                                      | 51 386 | 1 231 | 23.96        | 15.83     | 50 771 | 41.24     | 813 451   | 63.17        |
| 60-61                                                                      | 50 155 | 1 267 | 25.27        | 15.21     | 49 521 | 39.09     | 762 680   | 65.75        |
| 61-62                                                                      | 48 888 | 1 312 | 26.83        | 14.59     | 48 232 | 36.76     | 713 159   | 68.54        |
| 62-63                                                                      | 47 576 | 1 372 | 28.81        | 13.98     | 46 890 | 34.18     | 664 927   | 71.53        |
| 63-64                                                                      | 46 204 | 1 444 | 31.26        | 13.38     | 45 482 | 31.50     | 618 037   | 74.74        |
| 64-65                                                                      | 44 760 | 1 514 | 33.83        | 12.79     | 44 003 | 29.06     | 572 555   | 78.19        |
| 65-66                                                                      | 43 246 | 1 581 | 36.62        | 12.22     | 42 454 | 26.80     | 528 552   | 81.83        |
| 66-67                                                                      | 41 662 | 1 649 | 39.59        | 11.67     | 40 837 | 24.76     | 486 098   | 85.69        |
| 67-68                                                                      | 40 013 | 1 710 | 42.72        | 11.13     | 39 158 | 22.90     | 445 261   | 89.85        |
| 68-69                                                                      | 38 303 | 1 764 | 46.06        | 10.60     | 37 421 | 21.21     | 406 103   | 94.34        |
| 69-70                                                                      | 36 539 | 1 818 | 49.75        | 10.09     | 35 630 | 19.60     | 368 682   | 99.11        |
| 70-71                                                                      | 34 724 | 1 868 | 53.82        | 9.59      | 33 787 | 18.09     | 333 052   | 104.28       |
| 71-72                                                                      | 32 853 | 1 916 | 58.30        | 9.11      | 31 897 | 16.65     | 299 265   | 109.77       |
| 72-73                                                                      | 30 937 | 1 955 | 63.19        | 8.64      | 29 960 | 15.32     | 267 370   | 115.74       |
| 73-74                                                                      | 28 982 | 1 984 | 68.48        | 8.19      | 27 990 | 14.11     | 237 410   | 122.10       |
| 74-75                                                                      | 26 998 | 2 004 | 74.23        | 7.76      | 25 996 | 12.97     | 209 420   | 128.87       |
| 75-76                                                                      | 24 994 | 2 013 | 80.52        | 7.34      | 23 987 | 11.92     | 183 424   | 136.24       |
| 76-77                                                                      | 22 981 | 2 007 | 87.33        | 6.94      | 21 978 | 10.95     | 159 437   | 144.09       |
| 77-78                                                                      | 20 974 | 1 989 | 94.83        | 6.55      | 19 980 | 10.05     | 137 459   | 152.67       |
| 78-79                                                                      | 18 985 | 1 954 | 102.96       | 6.19      | 18 008 | 9.22      | 117 479   | 161.55       |
| 79-80                                                                      | 17 031 | 1 902 | 111.66       | 5.84      | 16 080 | 8.45      | 99 471    | 171.23       |
| 80-81                                                                      | 15 129 | 1 829 | 120.89       | 5.51      | 14 215 | 7.77      | 83 391    | 181.49       |
| 81-82                                                                      | 13 300 | 1 737 | 130.60       | 5.20      | 12 432 | 7.16      | 69 176    | 192.31       |
| 82-83                                                                      | 11 563 | 1 627 | 140.75       | 4.91      | 10 749 | 6.60      | 56 744    | 203.67       |
| 83-84                                                                      | 9 936  | 1 504 | 151.33       | 4.63      | 9 184  | 6.11      | 45 995    | 215.98       |
| 84-85                                                                      | 8 432  | 1 369 | 162.40       | 4.37      | 7 747  | 5.66      | 36 811    | 228.83       |
| 85-86                                                                      | 7 063  | 1 230 | 174.04       | 4.12      | 6 448  | 5.25      | 29 064    | 242.72       |
| 86-87                                                                      | 5 833  | 1 087 | 186.38       | 3.88      | 5 290  | 4.87      | 22 616    | 257.73       |
| 87-88                                                                      | 4 746  | 947   | 199.52       | 3.65      | 4 273  | 4.51      | 17 326    | 273.97       |
| 88-89                                                                      | 3 799  | 811   | 213.50       | 3.44      | 3 394  | 4.18      | 13 053    | 290.70       |
| 89-90                                                                      | 2 988  | 682   | 228.31       | 3.23      | 2 617  | 3.88      | 9 659     | 309.60       |
| 90-91                                                                      | 2 306  | 562   | 243.88       | 3.04      | 2 025  | 3.60      | 7 012     | 328.95       |
| 91-92                                                                      | 1 711  | 451   | 260.14       | 2.86      | 1 517  | 3.34      | 4 987     | 349.65       |
| 92-93                                                                      | 1 290  | 357   | 277.05       | 2.69      | 1 111  | 3.11      | 3 470     | 371.75       |
| 93-94                                                                      | 933    | 275   | 294.62       | 2.53      | 795    | 2.89      | 2 359     | 395.26       |
| 94-95                                                                      | 658    | 206   | 312.91       | 2.38      | 555    | 2.70      | 1 564     | 420.17       |
| 95-96                                                                      | 452    | 150   | 332.06       | 2.24      | 377    | 2.51      | 1 009     | 446.43       |
| 96-97                                                                      | 302    | 106   | 352.21       | 2.10      | 249    | 2.34      | 632       | 476.19       |
| 97-98                                                                      | 196    | 73    | 373.52       | 1.97      | 159    | 2.18      | 383       | 507.61       |
| 98-99                                                                      | 123    | 49    | 396.15       | 1.81      | 98     | 2.02      | 224       | 543.18       |
| 99-100                                                                     | 74     | 31    | 420.16       | 1.72      | 58     | 1.88      | 126       | 581.40       |
| 100-101                                                                    | 43     | 19    | 445.62       | 1.61      | 33     | 1.74      | 68        | 621.12       |
| 101-102                                                                    | 24     | 11    | 472.54       | 1.50      | 18     | 1.62      | 35        | 666.67       |
| 102-103                                                                    | 13     | 7     | 500.91       | 1.40      | 9      | 1.50      | 17        | 714.29       |
| 103-104                                                                    | 6      | 3     | 530.71       | 1.30      | 5      | 1.38      | 8         | 769.23       |
| 104-105                                                                    | 3      | 2     | 562.03       | 1.21      | 2      | 1.28      | 3         | 826.43       |
| 105-106                                                                    | 1      | 1     | 594.93       | 1.13      | 1      | 1.18      | 1         | 884.96       |

TABLE 6

## LIFE TABLE FOR FEMALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (11,954,444), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE INTERVAL.                                                      | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                                                    |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages.                         | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                                                       | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1                                                                  | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |
| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| Months.                                                            | 100 000                                    |                               | Monthly rate.                                                                | In years.                                                                        |                                                                                                                                                                                                             | Per month.                            |                                                                    | Annual rate.                                                                                 |
| 0-1                                                                | 100 000                                    | 3 839                         | 38.33                                                                        | 53.24                                                                            | 8 094                                                                                                                                                                                                       | 25.32                                 | 5 324 150                                                          | 18.78                                                                                        |
| 1-2                                                                | 96 167                                     | 1 001                         | 10.44                                                                        | 55.28                                                                            | 7 972                                                                                                                                                                                                       | 95.28                                 | 5 316 056                                                          | 18.09                                                                                        |
| 2-3                                                                | 95 163                                     | 858                           | 9.01                                                                         | 55.78                                                                            | 7 895                                                                                                                                                                                                       | 110.10                                | 5 308 084                                                          | 17.93                                                                                        |
| 3-4                                                                | 94 305                                     | 737                           | 7.82                                                                         | 56.20                                                                            | 7 828                                                                                                                                                                                                       | 127.44                                | 5 300 189                                                          | 17.79                                                                                        |
| 4-5                                                                | 93 568                                     | 651                           | 6.96                                                                         | 56.56                                                                            | 7 770                                                                                                                                                                                                       | 143.28                                | 5 292 361                                                          | 17.68                                                                                        |
| 5-6                                                                | 92 917                                     | 591                           | 6.36                                                                         | 56.87                                                                            | 7 718                                                                                                                                                                                                       | 156.72                                | 5 284 591                                                          | 17.58                                                                                        |
| 6-7                                                                | 92 326                                     | 545                           | 5.90                                                                         | 57.15                                                                            | 7 671                                                                                                                                                                                                       | 168.96                                | 5 276 873                                                          | 17.50                                                                                        |
| 7-8                                                                | 91 781                                     | 502                           | 5.47                                                                         | 57.41                                                                            | 7 628                                                                                                                                                                                                       | 182.40                                | 5 269 202                                                          | 17.42                                                                                        |
| 8-9                                                                | 91 279                                     | 465                           | 5.09                                                                         | 57.64                                                                            | 7 587                                                                                                                                                                                                       | 195.81                                | 5 261 574                                                          | 17.35                                                                                        |
| 9-10                                                               | 90 814                                     | 430                           | 4.74                                                                         | 57.85                                                                            | 7 550                                                                                                                                                                                                       | 210.72                                | 5 253 987                                                          | 17.29                                                                                        |
| 10-11                                                              | 90 384                                     | 398                           | 4.39                                                                         | 58.05                                                                            | 7 515                                                                                                                                                                                                       | 226.56                                | 5 246 437                                                          | 17.23                                                                                        |
| 11-12                                                              | 89 986                                     | 363                           | 4.04                                                                         | 58.22                                                                            | 7 484                                                                                                                                                                                                       | 247.44                                | 5 238 922                                                          | 17.18                                                                                        |
| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.   |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| Years.                                                             | 100 000                                    |                               | Annual rate.                                                                 | In years.                                                                        |                                                                                                                                                                                                             | Per year.                             |                                                                    | Annual rate.                                                                                 |
| 0-1                                                                | 100 000                                    | 10 377                        | 103.77                                                                       | 53.24                                                                            | 92 712                                                                                                                                                                                                      | 8.93                                  | 5 324 150                                                          | 18.78                                                                                        |
| 1-2                                                                | 89 623                                     | 2 366                         | 26.40                                                                        | 58.37                                                                            | 88 227                                                                                                                                                                                                      | 37.29                                 | 5 231 438                                                          | 17.13                                                                                        |
| 2-3                                                                | 87 257                                     | 1 015                         | 11.64                                                                        | 58.94                                                                            | 86 719                                                                                                                                                                                                      | 85.44                                 | 5 143 211                                                          | 16.97                                                                                        |
| 3-4                                                                | 86 242                                     | 655                           | 7.59                                                                         | 58.63                                                                            | 85 901                                                                                                                                                                                                      | 131.15                                | 5 056 492                                                          | 17.06                                                                                        |
| 4-5                                                                | 85 587                                     | 470                           | 5.50                                                                         | 58.08                                                                            | 85 342                                                                                                                                                                                                      | 181.58                                | 4 970 591                                                          | 17.22                                                                                        |
| 5-6                                                                | 85 117                                     | 387                           | 4.54                                                                         | 57.39                                                                            | 84 923                                                                                                                                                                                                      | 219.44                                | 4 885 249                                                          | 17.42                                                                                        |
| 6-7                                                                | 84 730                                     | 320                           | 3.77                                                                         | 56.65                                                                            | 84 570                                                                                                                                                                                                      | 264.28                                | 4 800 326                                                          | 17.65                                                                                        |
| 7-8                                                                | 84 410                                     | 265                           | 3.14                                                                         | 55.87                                                                            | 84 278                                                                                                                                                                                                      | 318.03                                | 4 715 756                                                          | 17.90                                                                                        |
| 8-9                                                                | 84 145                                     | 223                           | 2.65                                                                         | 55.04                                                                            | 84 034                                                                                                                                                                                                      | 376.83                                | 4 631 478                                                          | 18.17                                                                                        |
| 9-10                                                               | 83 922                                     | 194                           | 2.31                                                                         | 54.19                                                                            | 83 825                                                                                                                                                                                                      | 432.09                                | 4 547 444                                                          | 18.45                                                                                        |
| 10-11                                                              | 83 728                                     | 177                           | 2.11                                                                         | 53.31                                                                            | 83 640                                                                                                                                                                                                      | 472.54                                | 4 463 619                                                          | 18.76                                                                                        |
| 11-12                                                              | 83 551                                     | 171                           | 2.05                                                                         | 52.42                                                                            | 83 466                                                                                                                                                                                                      | 488.11                                | 4 379 979                                                          | 19.08                                                                                        |
| 12-13                                                              | 83 380                                     | 175                           | 2.10                                                                         | 51.53                                                                            | 83 293                                                                                                                                                                                                      | 475.96                                | 4 296 513                                                          | 19.41                                                                                        |
| 13-14                                                              | 83 205                                     | 187                           | 2.25                                                                         | 50.64                                                                            | 83 112                                                                                                                                                                                                      | 444.45                                | 4 213 220                                                          | 19.75                                                                                        |
| 14-15                                                              | 83 018                                     | 205                           | 2.48                                                                         | 49.75                                                                            | 82 915                                                                                                                                                                                                      | 404.46                                | 4 130 108                                                          | 20.10                                                                                        |
| 15-16                                                              | 82 813                                     | 229                           | 2.77                                                                         | 48.87                                                                            | 82 698                                                                                                                                                                                                      | 361.13                                | 4 047 193                                                          | 20.46                                                                                        |
| 16-17                                                              | 82 584                                     | 255                           | 3.08                                                                         | 48.01                                                                            | 82 456                                                                                                                                                                                                      | 323.36                                | 3 964 495                                                          | 20.83                                                                                        |
| 17-18                                                              | 82 329                                     | 279                           | 3.39                                                                         | 47.15                                                                            | 82 190                                                                                                                                                                                                      | 294.59                                | 3 882 039                                                          | 21.21                                                                                        |
| 18-19                                                              | 82 050                                     | 303                           | 3.70                                                                         | 46.31                                                                            | 81 898                                                                                                                                                                                                      | 270.29                                | 3 799 849                                                          | 21.59                                                                                        |
| 19-20                                                              | 81 747                                     | 329                           | 4.02                                                                         | 45.48                                                                            | 81 583                                                                                                                                                                                                      | 247.97                                | 3 717 951                                                          | 21.99                                                                                        |
| 20-21                                                              | 81 418                                     | 354                           | 4.35                                                                         | 44.66                                                                            | 81 241                                                                                                                                                                                                      | 229.49                                | 3 636 368                                                          | 22.39                                                                                        |
| 21-22                                                              | 81 064                                     | 375                           | 4.64                                                                         | 43.86                                                                            | 80 876                                                                                                                                                                                                      | 215.67                                | 3 555 127                                                          | 22.80                                                                                        |
| 22-23                                                              | 80 689                                     | 391                           | 4.85                                                                         | 43.06                                                                            | 80 493                                                                                                                                                                                                      | 205.86                                | 3 474 251                                                          | 23.22                                                                                        |
| 23-24                                                              | 80 298                                     | 403                           | 5.01                                                                         | 42.26                                                                            | 80 096                                                                                                                                                                                                      | 198.75                                | 3 393 758                                                          | 23.66                                                                                        |
| 24-25                                                              | 79 893                                     | 414                           | 5.18                                                                         | 41.48                                                                            | 79 688                                                                                                                                                                                                      | 192.48                                | 3 313 662                                                          | 24.11                                                                                        |
| 25-26                                                              | 79 481                                     | 426                           | 5.36                                                                         | 40.69                                                                            | 79 268                                                                                                                                                                                                      | 186.08                                | 3 233 974                                                          | 24.58                                                                                        |
| 26-27                                                              | 79 055                                     | 436                           | 5.52                                                                         | 39.91                                                                            | 78 837                                                                                                                                                                                                      | 180.82                                | 3 154 706                                                          | 25.06                                                                                        |
| 27-28                                                              | 78 619                                     | 447                           | 5.69                                                                         | 39.12                                                                            | 78 395                                                                                                                                                                                                      | 175.38                                | 3 075 869                                                          | 25.56                                                                                        |
| 28-29                                                              | 78 172                                     | 457                           | 5.85                                                                         | 38.34                                                                            | 77 943                                                                                                                                                                                                      | 170.55                                | 2 997 474                                                          | 26.08                                                                                        |
| 29-30                                                              | 77 715                                     | 468                           | 6.02                                                                         | 37.57                                                                            | 77 481                                                                                                                                                                                                      | 165.56                                | 2 919 531                                                          | 26.62                                                                                        |
| 30-31                                                              | 77 247                                     | 479                           | 6.20                                                                         | 36.79                                                                            | 77 007                                                                                                                                                                                                      | 160.77                                | 2 842 050                                                          | 27.18                                                                                        |
| 31-32                                                              | 76 768                                     | 491                           | 6.40                                                                         | 36.02                                                                            | 76 522                                                                                                                                                                                                      | 155.85                                | 2 765 043                                                          | 27.76                                                                                        |
| 32-33                                                              | 76 277                                     | 506                           | 6.63                                                                         | 35.25                                                                            | 76 024                                                                                                                                                                                                      | 150.25                                | 2 688 521                                                          | 28.37                                                                                        |
| 33-34                                                              | 75 771                                     | 519                           | 6.85                                                                         | 34.48                                                                            | 75 512                                                                                                                                                                                                      | 145.50                                | 2 612 497                                                          | 29.00                                                                                        |
| 34-35                                                              | 75 252                                     | 533                           | 7.08                                                                         | 33.71                                                                            | 74 986                                                                                                                                                                                                      | 140.69                                | 2 536 985                                                          | 29.66                                                                                        |
| 35-36                                                              | 74 719                                     | 545                           | 7.30                                                                         | 32.95                                                                            | 74 447                                                                                                                                                                                                      | 136.60                                | 2 461 999                                                          | 30.35                                                                                        |
| 36-37                                                              | 74 174                                     | 557                           | 7.51                                                                         | 32.19                                                                            | 73 895                                                                                                                                                                                                      | 132.67                                | 2 387 552                                                          | 31.07                                                                                        |
| 37-38                                                              | 73 617                                     | 566                           | 7.68                                                                         | 31.43                                                                            | 73 334                                                                                                                                                                                                      | 129.57                                | 2 313 657                                                          | 31.82                                                                                        |
| 38-39                                                              | 73 051                                     | 574                           | 7.86                                                                         | 30.67                                                                            | 72 764                                                                                                                                                                                                      | 126.77                                | 2 240 323                                                          | 32.61                                                                                        |
| 39-40                                                              | 72 477                                     | 583                           | 8.05                                                                         | 29.91                                                                            | 72 186                                                                                                                                                                                                      | 123.82                                | 2 167 559                                                          | 33.43                                                                                        |
| 40-41                                                              | 71 894                                     | 593                           | 8.25                                                                         | 29.15                                                                            | 71 598                                                                                                                                                                                                      | 120.74                                | 2 095 373                                                          | 34.31                                                                                        |
| 41-42                                                              | 71 301                                     | 608                           | 8.50                                                                         | 28.38                                                                            | 70 998                                                                                                                                                                                                      | 117.16                                | 2 023 775                                                          | 35.24                                                                                        |
| 42-43                                                              | 70 695                                     | 621                           | 8.83                                                                         | 27.62                                                                            | 70 383                                                                                                                                                                                                      | 112.79                                | 1 952 777                                                          | 36.21                                                                                        |
| 43-44                                                              | 70 071                                     | 646                           | 9.22                                                                         | 26.86                                                                            | 69 748                                                                                                                                                                                                      | 107.97                                | 1 882 394                                                          | 37.23                                                                                        |
| 44-45                                                              | 69 425                                     | 670                           | 9.64                                                                         | 26.11                                                                            | 69 090                                                                                                                                                                                                      | 103.12                                | 1 812 646                                                          | 38.30                                                                                        |



## ORIGINAL REGISTRATION STATES: 1910.

TABLE 6

REPORTED DEATHS IN 1909 (165,379), IN 1910 (175,842), AND IN 1911 (171,406).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE INTERVAL.                              | Of 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |       |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        |       | Per year. | Annual rate. |
| 45-46                                                                      | 68 755 | 696   | 10.12        | 25.36     | 68 407 | 98.29 | 1 743 556 | 39.43        |
| 46-47                                                                      | 68 059 | 724   | 10.61        | 24.61     | 67 697 | 93.50 | 1 675 149 | 40.63        |
| 47-48                                                                      | 67 335 | 751   | 11.15        | 23.87     | 66 960 | 89.16 | 1 607 452 | 41.89        |
| 48-49                                                                      | 66 581 | 777   | 11.68        | 23.14     | 66 196 | 85.19 | 1 540 492 | 43.22        |
| 49-50                                                                      | 65 807 | 806   | 12.24        | 22.40     | 65 404 | 81.15 | 1 474 296 | 44.64        |
| 50-51                                                                      | 65 001 | 834   | 12.83        | 21.67     | 64 584 | 77.44 | 1 408 892 | 46.15        |
| 51-52                                                                      | 64 167 | 868   | 13.52        | 20.95     | 63 733 | 73.43 | 1 344 308 | 47.73        |
| 52-53                                                                      | 63 299 | 911   | 14.41        | 20.23     | 62 844 | 68.98 | 1 280 575 | 49.43        |
| 53-54                                                                      | 62 388 | 967   | 15.50        | 19.52     | 61 904 | 64.02 | 1 217 731 | 51.23        |
| 54-55                                                                      | 61 421 | 1 029 | 16.75        | 18.82     | 60 906 | 59.19 | 1 155 827 | 53.13        |
| 55-56                                                                      | 60 392 | 1 099 | 18.20        | 18.13     | 59 842 | 54.45 | 1 094 921 | 55.16        |
| 56-57                                                                      | 59 293 | 1 173 | 19.78        | 17.46     | 58 706 | 50.05 | 1 035 079 | 57.27        |
| 57-58                                                                      | 58 120 | 1 239 | 21.32        | 16.80     | 57 500 | 46.41 | 976 373   | 59.52        |
| 58-59                                                                      | 56 881 | 1 297 | 22.81        | 16.15     | 56 232 | 43.36 | 918 873   | 61.92        |
| 59-60                                                                      | 55 584 | 1 358 | 24.43        | 15.52     | 54 905 | 40.43 | 862 641   | 64.43        |
| 60-61                                                                      | 54 226 | 1 417 | 26.13        | 14.90     | 53 517 | 37.77 | 807 736   | 67.11        |
| 61-62                                                                      | 52 809 | 1 480 | 28.03        | 14.28     | 52 069 | 35.18 | 754 219   | 70.03        |
| 62-63                                                                      | 51 329 | 1 553 | 30.26        | 13.68     | 50 552 | 32.56 | 702 150   | 73.10        |
| 63-64                                                                      | 49 776 | 1 633 | 32.79        | 13.09     | 48 960 | 29.98 | 651 598   | 76.39        |
| 64-65                                                                      | 48 143 | 1 705 | 35.42        | 12.52     | 47 291 | 27.71 | 602 638   | 79.87        |
| 65-66                                                                      | 46 438 | 1 772 | 38.15        | 11.96     | 45 552 | 25.71 | 555 347   | 83.61        |
| 66-67                                                                      | 44 666 | 1 837 | 41.13        | 11.41     | 43 748 | 23.81 | 509 795   | 87.64        |
| 67-68                                                                      | 42 829 | 1 904 | 44.47        | 10.88     | 41 877 | 21.99 | 466 047   | 91.91        |
| 68-69                                                                      | 40 925 | 1 973 | 48.20        | 10.36     | 39 939 | 20.24 | 424 170   | 96.53        |
| 69-70                                                                      | 38 952 | 2 036 | 52.28        | 9.86      | 37 934 | 18.63 | 384 231   | 101.12       |
| 70-71                                                                      | 36 916 | 2 097 | 56.79        | 9.38      | 35 868 | 17.10 | 346 297   | 106.61       |
| 71-72                                                                      | 34 819 | 2 144 | 61.57        | 8.92      | 33 747 | 15.74 | 310 429   | 112.11       |
| 72-73                                                                      | 32 675 | 2 170 | 66.41        | 8.47      | 31 590 | 14.56 | 276 682   | 118.06       |
| 73-74                                                                      | 30 505 | 2 176 | 71.36        | 8.03      | 29 417 | 13.52 | 245 092   | 124.53       |
| 74-75                                                                      | 28 329 | 2 174 | 76.74        | 7.61      | 27 242 | 12.53 | 215 675   | 131.41       |
| 75-76                                                                      | 26 155 | 2 159 | 82.55        | 7.20      | 25 075 | 11.61 | 188 433   | 138.89       |
| 76-77                                                                      | 23 996 | 2 133 | 88.88        | 6.81      | 22 929 | 10.75 | 163 358   | 146.84       |
| 77-78                                                                      | 21 863 | 2 101 | 96.08        | 6.42      | 20 813 | 9.91  | 140 429   | 155.76       |
| 78-79                                                                      | 19 762 | 2 062 | 104.38       | 6.05      | 18 731 | 9.08  | 119 616   | 165.29       |
| 79-80                                                                      | 17 700 | 2 018 | 113.98       | 5.70      | 16 691 | 8.27  | 100 885   | 175.44       |
| 80-81                                                                      | 15 682 | 1 970 | 125.66       | 5.37      | 14 697 | 7.46  | 84 194    | 186.22       |
| 81-82                                                                      | 13 712 | 1 892 | 137.98       | 5.07      | 12 766 | 6.75  | 69 497    | 197.24       |
| 82-83                                                                      | 11 820 | 1 760 | 148.84       | 4.80      | 10 910 | 6.22  | 56 731    | 208.33       |
| 83-84                                                                      | 10 060 | 1 588 | 157.85       | 4.55      | 9 266  | 5.84  | 45 791    | 219.78       |
| 84-85                                                                      | 8 472  | 1 421 | 167.78       | 4.31      | 7 762  | 5.46  | 36 525    | 232.02       |
| 85-86                                                                      | 7 051  | 1 256 | 178.07       | 4.08      | 6 423  | 5.12  | 28 763    | 245.10       |
| 86-87                                                                      | 5 795  | 1 097 | 189.37       | 3.85      | 5 247  | 4.78  | 22 340    | 259.74       |
| 87-88                                                                      | 4 698  | 947   | 201.56       | 3.64      | 4 224  | 4.46  | 17 093    | 274.73       |
| 88-89                                                                      | 3 751  | 806   | 214.88       | 3.43      | 3 348  | 4.15  | 12 869    | 291.55       |
| 89-90                                                                      | 2 945  | 676   | 229.53       | 3.23      | 2 607  | 3.86  | 9 521     | 309.60       |
| 90-91                                                                      | 2 269  | 557   | 245.38       | 3.05      | 1 991  | 3.58  | 6 914     | 327.87       |
| 91-92                                                                      | 1 712  | 449   | 262.10       | 2.88      | 1 488  | 3.32  | 4 923     | 347.22       |
| 92-93                                                                      | 1 263  | 352   | 279.18       | 2.72      | 1 087  | 3.08  | 3 435     | 367.65       |
| 93-94                                                                      | 911    | 270   | 296.16       | 2.58      | 776    | 2.88  | 2 348     | 387.60       |
| 94-95                                                                      | 611    | 200   | 312.62       | 2.45      | 541    | 2.70  | 1 572     | 408.16       |
| 95-96                                                                      | 441    | 145   | 328.28       | 2.34      | 368    | 2.55  | 1 031     | 427.35       |
| 96-97                                                                      | 296    | 102   | 343.00       | 2.24      | 245    | 2.42  | 663       | 446.43       |
| 97-98                                                                      | 194    | 69    | 356.90       | 2.15      | 160    | 2.30  | 418       | 465.12       |
| 98-99                                                                      | 125    | 46    | 370.29       | 2.06      | 102    | 2.20  | 258       | 485.44       |
| 99-100                                                                     | 79     | 30    | 383.43       | 1.98      | 64     | 2.11  | 156       | 505.05       |
| 100-101                                                                    | 49     | 20    | 396.62       | 1.91      | 39     | 2.02  | 92        | 523.56       |
| 101-102                                                                    | 29     | 12    | 410.19       | 1.83      | 23     | 1.94  | 53        | 546.45       |
| 102-103                                                                    | 17     | 7     | 424.44       | 1.75      | 14     | 1.86  | 30        | 571.43       |
| 103-104                                                                    | 10     | 4     | 439.56       | 1.68      | 8      | 1.78  | 16        | 595.24       |
| 104-105                                                                    | 6      | 3     | 455.70       | 1.60      | 4      | 1.69  | 8         | 625.00       |
| 105-106                                                                    | 3      | 1     | 474.10       | 1.52      | 2      | 1.61  | 4         | 657.89       |
| 106-107                                                                    | 2      | 1     | 494.27       | 1.44      | 1      | 1.52  | 2         | 694.44       |
| 107-108                                                                    | 1      | 1     | 516.40       | 1.36      | 1      | 1.44  | 1         | 735.29       |

TABLE 7

## LIFE TABLE FOR WHITE MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (10,011,715), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE<br>INTERVAL.                                                   | OF 100,000 MALES BORN<br>ALIVE:                     |                                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND. | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                           | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                                                |                                                            |                                                                               |
|--------------------------------------------------------------------|-----------------------------------------------------|--------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------|
|                                                                    |                                                     |                                                  |                                          |                                                                                               | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                                        | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS. | DEATH RATE<br>PER THOUSAND.                                                   |
|                                                                    | Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval.         | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval.                                                                                                               | Including only<br>those in current<br>month or year<br>of age. | Population<br>per death in<br>age interval.                | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                                       | $l_x$                                               | $d_x$                                            | $1000q_x$                                | $e_x$                                                                                         | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                                      | $T_x$                                                      | $1000L_x/T_x$                                                                 |
| 1                                                                  | 2                                                   | 3                                                | 4                                        | 5                                                                                             | 6                                                                                                                                                                                                          | 7                                                              | 8                                                          | 9                                                                             |
| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |                                                     |                                                  |                                          |                                                                                               |                                                                                                                                                                                                            |                                                                |                                                            |                                                                               |
| Months.                                                            |                                                     |                                                  | Monthly rate.                            | In years.                                                                                     |                                                                                                                                                                                                            | Per month.                                                     |                                                            | Annual rate.                                                                  |
| 0-1                                                                | 100 000                                             | 4 569                                            | 45.69                                    | 48.23                                                                                         | 8 048                                                                                                                                                                                                      | 21.12                                                          | 4 823 011                                                  | 20.73                                                                         |
| 1-2                                                                | 95 431                                              | 1 191                                            | 12.49                                    | 50.45                                                                                         | 7 903                                                                                                                                                                                                      | 79.68                                                          | 4 814 963                                                  | 19.82                                                                         |
| 2-3                                                                | 94 240                                              | 1 101                                            | 11.68                                    | 51.01                                                                                         | 7 807                                                                                                                                                                                                      | 85.08                                                          | 4 807 060                                                  | 19.60                                                                         |
| 3-4                                                                | 93 139                                              | 1 017                                            | 10.92                                    | 51.53                                                                                         | 7 719                                                                                                                                                                                                      | 91.08                                                          | 4 799 253                                                  | 19.41                                                                         |
| 4-5                                                                | 92 122                                              | 933                                              | 10.13                                    | 52.01                                                                                         | 7 638                                                                                                                                                                                                      | 98.28                                                          | 4 791 531                                                  | 19.23                                                                         |
| 5-6                                                                | 91 189                                              | 853                                              | 9.36                                     | 52.46                                                                                         | 7 561                                                                                                                                                                                                      | 106.44                                                         | 4 783 896                                                  | 19.06                                                                         |
| 6-7                                                                | 90 336                                              | 775                                              | 8.58                                     | 52.87                                                                                         | 7 496                                                                                                                                                                                                      | 116.04                                                         | 4 776 332                                                  | 18.91                                                                         |
| 7-8                                                                | 89 561                                              | 701                                              | 7.83                                     | 53.25                                                                                         | 7 434                                                                                                                                                                                                      | 127.20                                                         | 4 768 836                                                  | 18.78                                                                         |
| 8-9                                                                | 88 860                                              | 635                                              | 7.14                                     | 53.58                                                                                         | 7 379                                                                                                                                                                                                      | 139.44                                                         | 4 761 402                                                  | 18.66                                                                         |
| 9-10                                                               | 88 225                                              | 573                                              | 6.50                                     | 53.89                                                                                         | 7 328                                                                                                                                                                                                      | 153.48                                                         | 4 754 023                                                  | 18.56                                                                         |
| 10-11                                                              | 87 652                                              | 522                                              | 5.96                                     | 54.15                                                                                         | 7 283                                                                                                                                                                                                      | 167.40                                                         | 4 746 695                                                  | 18.47                                                                         |
| 11-12                                                              | 87 130                                              | 475                                              | 5.44                                     | 54.39                                                                                         | 7 241                                                                                                                                                                                                      | 182.88                                                         | 4 739 412                                                  | 18.39                                                                         |
| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.   |                                                     |                                                  |                                          |                                                                                               |                                                                                                                                                                                                            |                                                                |                                                            |                                                                               |
| Years.                                                             |                                                     |                                                  | Annual rate.                             | In years.                                                                                     |                                                                                                                                                                                                            | Per year.                                                      |                                                            | Annual rate.                                                                  |
| 0-1                                                                | 100 000                                             | 13 315                                           | 133.45                                   | 48.23                                                                                         | 90 840                                                                                                                                                                                                     | 6.81                                                           | 4 823 011                                                  | 20.73                                                                         |
| 1-2                                                                | 86 655                                              | 2 986                                            | 34.47                                    | 51.61                                                                                         | 81 893                                                                                                                                                                                                     | 28.43                                                          | 4 732 171                                                  | 18.31                                                                         |
| 2-3                                                                | 83 609                                              | 1 326                                            | 15.81                                    | 55.54                                                                                         | 82 966                                                                                                                                                                                                     | 62.57                                                          | 4 647 278                                                  | 18.01                                                                         |
| 3-4                                                                | 82 313                                              | 814                                              | 10.26                                    | 55.43                                                                                         | 81 901                                                                                                                                                                                                     | 97.01                                                          | 4 561 312                                                  | 18.04                                                                         |
| 4-5                                                                | 81 499                                              | 635                                              | 7.79                                     | 55.00                                                                                         | 81 169                                                                                                                                                                                                     | 127.83                                                         | 4 482 408                                                  | 18.18                                                                         |
| 5-6                                                                | 80 861                                              | 490                                              | 6.06                                     | 54.43                                                                                         | 80 619                                                                                                                                                                                                     | 164.53                                                         | 4 401 239                                                  | 18.37                                                                         |
| 6-7                                                                | 80 374                                              | 405                                              | 5.04                                     | 53.76                                                                                         | 80 172                                                                                                                                                                                                     | 197.96                                                         | 4 320 620                                                  | 18.60                                                                         |
| 7-8                                                                | 79 969                                              | 336                                              | 4.20                                     | 53.03                                                                                         | 79 801                                                                                                                                                                                                     | 237.50                                                         | 4 240 448                                                  | 18.86                                                                         |
| 8-9                                                                | 79 633                                              | 282                                              | 3.54                                     | 52.25                                                                                         | 79 492                                                                                                                                                                                                     | 281.69                                                         | 4 160 647                                                  | 19.14                                                                         |
| 9-10                                                               | 79 351                                              | 242                                              | 3.05                                     | 51.43                                                                                         | 79 230                                                                                                                                                                                                     | 327.40                                                         | 4 081 155                                                  | 19.44                                                                         |
| 10-11                                                              | 79 109                                              | 216                                              | 2.74                                     | 50.59                                                                                         | 79 001                                                                                                                                                                                                     | 365.75                                                         | 4 001 925                                                  | 19.77                                                                         |
| 11-12                                                              | 78 893                                              | 205                                              | 2.59                                     | 49.72                                                                                         | 78 791                                                                                                                                                                                                     | 384.35                                                         | 3 922 924                                                  | 20.11                                                                         |
| 12-13                                                              | 78 688                                              | 203                                              | 2.59                                     | 48.85                                                                                         | 78 586                                                                                                                                                                                                     | 387.12                                                         | 3 844 133                                                  | 20.47                                                                         |
| 13-14                                                              | 78 485                                              | 215                                              | 2.73                                     | 47.98                                                                                         | 78 377                                                                                                                                                                                                     | 364.54                                                         | 3 765 547                                                  | 20.84                                                                         |
| 14-15                                                              | 78 270                                              | 233                                              | 2.99                                     | 47.11                                                                                         | 78 154                                                                                                                                                                                                     | 335.42                                                         | 3 687 170                                                  | 21.23                                                                         |
| 15-16                                                              | 78 037                                              | 261                                              | 3.31                                     | 46.25                                                                                         | 77 907                                                                                                                                                                                                     | 298.49                                                         | 3 609 016                                                  | 21.62                                                                         |
| 16-17                                                              | 77 776                                              | 292                                              | 3.77                                     | 45.40                                                                                         | 77 630                                                                                                                                                                                                     | 265.86                                                         | 3 531 109                                                  | 22.03                                                                         |
| 17-18                                                              | 77 484                                              | 330                                              | 4.25                                     | 44.57                                                                                         | 77 319                                                                                                                                                                                                     | 234.30                                                         | 3 453 479                                                  | 22.44                                                                         |
| 18-19                                                              | 77 151                                              | 369                                              | 4.78                                     | 43.76                                                                                         | 76 970                                                                                                                                                                                                     | 208.59                                                         | 3 376 160                                                  | 22.85                                                                         |
| 19-20                                                              | 76 785                                              | 409                                              | 5.34                                     | 42.97                                                                                         | 76 581                                                                                                                                                                                                     | 187.24                                                         | 3 299 190                                                  | 23.27                                                                         |
| 20-21                                                              | 76 376                                              | 451                                              | 5.94                                     | 42.19                                                                                         | 76 149                                                                                                                                                                                                     | 167.73                                                         | 3 222 609                                                  | 23.70                                                                         |
| 21-22                                                              | 75 922                                              | 487                                              | 6.42                                     | 41.44                                                                                         | 75 678                                                                                                                                                                                                     | 155.40                                                         | 3 146 460                                                  | 24.13                                                                         |
| 22-23                                                              | 75 435                                              | 504                                              | 6.68                                     | 40.71                                                                                         | 75 183                                                                                                                                                                                                     | 149.17                                                         | 3 070 782                                                  | 24.56                                                                         |
| 23-24                                                              | 74 931                                              | 509                                              | 6.79                                     | 39.98                                                                                         | 74 677                                                                                                                                                                                                     | 146.71                                                         | 2 995 599                                                  | 25.01                                                                         |
| 24-25                                                              | 74 422                                              | 515                                              | 6.92                                     | 39.25                                                                                         | 74 165                                                                                                                                                                                                     | 141.01                                                         | 2 920 922                                                  | 25.48                                                                         |
| 25-26                                                              | 73 907                                              | 520                                              | 7.04                                     | 38.52                                                                                         | 73 647                                                                                                                                                                                                     | 141.63                                                         | 2 846 757                                                  | 25.96                                                                         |
| 26-27                                                              | 73 387                                              | 526                                              | 7.17                                     | 37.79                                                                                         | 73 124                                                                                                                                                                                                     | 139.02                                                         | 2 773 110                                                  | 26.46                                                                         |
| 27-28                                                              | 72 861                                              | 535                                              | 7.35                                     | 37.06                                                                                         | 72 594                                                                                                                                                                                                     | 135.69                                                         | 2 699 986                                                  | 26.98                                                                         |
| 28-29                                                              | 72 326                                              | 548                                              | 7.57                                     | 36.33                                                                                         | 72 052                                                                                                                                                                                                     | 131.48                                                         | 2 627 392                                                  | 27.53                                                                         |
| 29-30                                                              | 71 778                                              | 559                                              | 7.79                                     | 35.60                                                                                         | 71 499                                                                                                                                                                                                     | 127.91                                                         | 2 555 340                                                  | 28.09                                                                         |
| 30-31                                                              | 71 219                                              | 569                                              | 7.99                                     | 34.88                                                                                         | 70 935                                                                                                                                                                                                     | 124.67                                                         | 2 483 841                                                  | 28.67                                                                         |
| 31-32                                                              | 70 650                                              | 581                                              | 8.23                                     | 34.15                                                                                         | 70 359                                                                                                                                                                                                     | 121.10                                                         | 2 412 906                                                  | 29.28                                                                         |
| 32-33                                                              | 70 069                                              | 594                                              | 8.48                                     | 33.43                                                                                         | 69 772                                                                                                                                                                                                     | 117.46                                                         | 2 342 547                                                  | 29.91                                                                         |
| 33-34                                                              | 69 475                                              | 608                                              | 8.75                                     | 32.71                                                                                         | 69 171                                                                                                                                                                                                     | 113.77                                                         | 2 272 775                                                  | 30.57                                                                         |
| 34-35                                                              | 68 867                                              | 622                                              | 9.03                                     | 32.00                                                                                         | 68 556                                                                                                                                                                                                     | 110.22                                                         | 2 203 604                                                  | 31.25                                                                         |
| 35-36                                                              | 68 245                                              | 636                                              | 9.32                                     | 31.29                                                                                         | 67 927                                                                                                                                                                                                     | 106.80                                                         | 2 135 048                                                  | 31.96                                                                         |
| 36-37                                                              | 67 609                                              | 648                                              | 9.60                                     | 30.57                                                                                         | 67 285                                                                                                                                                                                                     | 103.83                                                         | 2 067 121                                                  | 32.71                                                                         |
| 37-38                                                              | 66 961                                              | 660                                              | 9.85                                     | 29.87                                                                                         | 66 631                                                                                                                                                                                                     | 100.96                                                         | 1 999 836                                                  | 33.48                                                                         |
| 38-39                                                              | 66 301                                              | 668                                              | 10.09                                    | 29.16                                                                                         | 65 967                                                                                                                                                                                                     | 98.75                                                          | 1 933 205                                                  | 34.29                                                                         |
| 39-40                                                              | 65 633                                              | 679                                              | 10.34                                    | 28.45                                                                                         | 65 293                                                                                                                                                                                                     | 96.16                                                          | 1 867 238                                                  | 35.15                                                                         |
| 40-41                                                              | 64 954                                              | 688                                              | 10.60                                    | 27.74                                                                                         | 64 610                                                                                                                                                                                                     | 93.91                                                          | 1 801 945                                                  | 36.05                                                                         |
| 41-42                                                              | 64 266                                              | 700                                              | 10.89                                    | 27.03                                                                                         | 63 916                                                                                                                                                                                                     | 91.31                                                          | 1 737 335                                                  | 37.00                                                                         |
| 42-43                                                              | 63 566                                              | 714                                              | 11.24                                    | 26.33                                                                                         | 63 209                                                                                                                                                                                                     | 88.53                                                          | 1 673 419                                                  | 37.98                                                                         |
| 43-44                                                              | 62 852                                              | 732                                              | 11.64                                    | 25.62                                                                                         | 62 486                                                                                                                                                                                                     | 85.36                                                          | 1 610 210                                                  | 39.03                                                                         |
| 44-45                                                              | 62 120                                              | 751                                              | 12.10                                    | 24.92                                                                                         | 61 744                                                                                                                                                                                                     | 82.22                                                          | 1 547 724                                                  | 40.13                                                                         |

## ORIGINAL REGISTRATION STATES: 1901.

TABLE 7

REPORTED DEATHS IN 1900 (173,731), IN 1901 (169,530), AND IN 1902 (163,387).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE<br>INTERVAL.                                    | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 61 369 | 775   | 12.63        | 24.21     | 60 981 | 78.69     | 1 485 980 | 41.31        |
| 46-47                                                                      | 60 594 | 799   | 13.19        | 23.52     | 60 194 | 75.31     | 1 424 999 | 42.52        |
| 47-48                                                                      | 59 795 | 821   | 13.72        | 22.82     | 59 384 | 72.33     | 1 364 805 | 43.82        |
| 48-49                                                                      | 58 974 | 840   | 14.24        | 22.14     | 58 554 | 69.71     | 1 305 421 | 45.17        |
| 49-50                                                                      | 58 134 | 860   | 14.80        | 21.45     | 57 704 | 67.10     | 1 246 867 | 46.62        |
| 50-51                                                                      | 57 274 | 880   | 15.37        | 20.76     | 56 834 | 64.58     | 1 189 163 | 48.17        |
| 51-52                                                                      | 56 394 | 907   | 16.08        | 20.08     | 55 940 | 61.68     | 1 132 329 | 49.80        |
| 52-53                                                                      | 55 487 | 917   | 17.06        | 19.40     | 55 013 | 58.09     | 1 076 389 | 51.55        |
| 53-54                                                                      | 54 510 | 997   | 18.29        | 18.73     | 54 012 | 54.20     | 1 021 376 | 53.39        |
| 54-55                                                                      | 53 513 | 1 052 | 19.64        | 18.07     | 53 017 | 50.40     | 967 334   | 55.34        |
| 55-56                                                                      | 52 491 | 1 112 | 21.18        | 17.42     | 51 935 | 46.70     | 914 317   | 57.41        |
| 56-57                                                                      | 51 379 | 1 169 | 22.76        | 16.78     | 50 795 | 43.45     | 862 352   | 59.59        |
| 57-58                                                                      | 50 210 | 1 215 | 24.20        | 16.16     | 49 602 | 40.82     | 811 587   | 61.88        |
| 58-59                                                                      | 48 995 | 1 252 | 25.55        | 15.55     | 48 369 | 38.63     | 761 985   | 64.31        |
| 59-60                                                                      | 47 743 | 1 291 | 27.04        | 14.95     | 47 097 | 36.48     | 713 616   | 66.89        |
| 60-61                                                                      | 46 452 | 1 328 | 28.59        | 14.35     | 45 788 | 34.48     | 666 519   | 69.69        |
| 61-62                                                                      | 45 124 | 1 373 | 30.43        | 13.76     | 44 437 | 32.36     | 620 731   | 72.67        |
| 62-63                                                                      | 43 751 | 1 433 | 32.76        | 13.17     | 43 034 | 30.03     | 576 294   | 75.93        |
| 63-64                                                                      | 42 318 | 1 504 | 35.52        | 12.60     | 41 566 | 27.64     | 533 260   | 79.37        |
| 64-65                                                                      | 40 814 | 1 569 | 38.46        | 12.05     | 40 030 | 25.51     | 491 694   | 82.99        |
| 65-66                                                                      | 39 245 | 1 635 | 41.66        | 11.51     | 38 427 | 23.50     | 451 664   | 86.88        |
| 66-67                                                                      | 37 610 | 1 691 | 44.96        | 10.99     | 36 764 | 21.74     | 413 237   | 90.99        |
| 67-68                                                                      | 35 919 | 1 732 | 48.21        | 10.48     | 35 053 | 20.24     | 376 473   | 95.42        |
| 68-69                                                                      | 34 187 | 1 760 | 51.50        | 9.99      | 33 307 | 18.92     | 341 420   | 100.10       |
| 69-70                                                                      | 32 427 | 1 787 | 55.10        | 9.50      | 31 533 | 17.65     | 308 113   | 105.26       |
| 70-71                                                                      | 30 640 | 1 806 | 58.94        | 9.03      | 29 737 | 16.47     | 276 580   | 110.74       |
| 71-72                                                                      | 28 834 | 1 827 | 63.35        | 8.56      | 27 920 | 15.28     | 246 813   | 116.82       |
| 72-73                                                                      | 27 007 | 1 853 | 68.61        | 8.11      | 26 081 | 14.08     | 218 923   | 123.30       |
| 73-74                                                                      | 25 154 | 1 877 | 74.65        | 7.67      | 24 215 | 12.90     | 192 842   | 130.38       |
| 74-75                                                                      | 23 277 | 1 890 | 81.20        | 7.24      | 22 332 | 11.83     | 168 627   | 138.12       |
| 75-76                                                                      | 21 387 | 1 891 | 88.43        | 6.84      | 20 441 | 10.81     | 146 295   | 146.20       |
| 76-77                                                                      | 19 496 | 1 873 | 96.07        | 6.46      | 18 559 | 9.91      | 125 854   | 154.80       |
| 77-78                                                                      | 17 623 | 1 840 | 104.11       | 6.09      | 16 703 | 9.08      | 107 295   | 164.20       |
| 78-79                                                                      | 15 783 | 1 792 | 113.55       | 5.74      | 14 887 | 8.31      | 90 592    | 174.22       |
| 79-80                                                                      | 13 991 | 1 725 | 123.28       | 5.41      | 13 128 | 7.61      | 75 705    | 184.84       |
| 80-81                                                                      | 12 266 | 1 638 | 133.53       | 5.10      | 11 447 | 6.99      | 62 577    | 196.08       |
| 81-82                                                                      | 10 628 | 1 533 | 144.24       | 4.81      | 9 862  | 6.43      | 51 130    | 207.90       |
| 82-83                                                                      | 9 095  | 1 413 | 155.42       | 4.54      | 8 388  | 5.93      | 41 268    | 220.26       |
| 83-84                                                                      | 7 682  | 1 281 | 167.04       | 4.28      | 7 010  | 5.19      | 32 880    | 233.64       |
| 84-85                                                                      | 6 398  | 1 146 | 179.15       | 4.04      | 5 825  | 5.08      | 25 840    | 247.52       |
| 85-86                                                                      | 5 262  | 1 007 | 191.76       | 3.81      | 4 749  | 4.71      | 20 015    | 262.47       |
| 86-87                                                                      | 4 215  | 870   | 204.91       | 3.60      | 3 810  | 4.38      | 15 266    | 277.78       |
| 87-88                                                                      | 3 375  | 738   | 218.59       | 3.39      | 3 006  | 4.07      | 11 456    | 294.99       |
| 88-89                                                                      | 2 647  | 614   | 232.80       | 3.20      | 2 330  | 3.80      | 8 450     | 312.50       |
| 89-90                                                                      | 2 023  | 500   | 247.53       | 3.02      | 1 773  | 3.54      | 6 120     | 331.13       |
| 90-91                                                                      | 1 523  | 401   | 262.78       | 2.85      | 1 323  | 3.31      | 4 347     | 350.88       |
| 91-92                                                                      | 1 122  | 312   | 278.60       | 2.69      | 966    | 3.09      | 3 024     | 371.75       |
| 92-93                                                                      | 810    | 239   | 295.08       | 2.54      | 690    | 2.89      | 2 058     | 393.70       |
| 93-94                                                                      | 571    | 178   | 312.35       | 2.40      | 482    | 2.70      | 1 368     | 416.67       |
| 94-95                                                                      | 393    | 130   | 330.52       | 2.26      | 328    | 2.53      | 886       | 442.48       |
| 95-96                                                                      | 263    | 92    | 349.71       | 2.12      | 217    | 2.36      | 558       | 471.70       |
| 96-97                                                                      | 171    | 63    | 369.99       | 2.00      | 139    | 2.20      | 341       | 500.00       |
| 97-98                                                                      | 108    | 42    | 391.41       | 1.88      | 87     | 2.05      | 202       | 531.91       |
| 98-99                                                                      | 66     | 28    | 413.99       | 1.76      | 52     | 1.92      | 115       | 568.18       |
| 99-100                                                                     | 38     | 16    | 437.76       | 1.65      | 30     | 1.78      | 63        | 606.06       |
| 100-101                                                                    | 22     | 10    | 462.75       | 1.55      | 17     | 1.66      | 33        | 645.16       |
| 101-102                                                                    | 12     | 6     | 489.04       | 1.45      | 9      | 1.54      | 16        | 689.66       |
| 102-103                                                                    | 6      | 3     | 516.65       | 1.35      | 4      | 1.44      | 7         | 740.74       |
| 103-104                                                                    | 3      | 2     | 545.65       | 1.26      | 2      | 1.33      | 3         | 793.65       |
| 104-105                                                                    | 1      | 1     | 576.07       | 1.18      | 1      | 1.24      | 1         | 847.46       |

TABLE 8

## LIFE TABLE FOR WHITE MALES IN THE

BASED ON THE ESTIMATED MEAN POPULATION FOR THE 10-YEAR PERIOD, 1901 TO 1910 (10,939,400), AND ON THE (182,520), IN 1907 (190,077), IN 1908 (180,776),

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE INTERVAL.                                                      | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                                                    |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages.                         | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                   | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                                                       | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                                                  | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                       | 7                                     | 8                                                                  | 9                                                                                            |
| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                         |                                       |                                                                    |                                                                                              |
| Months.                                                            |                                            |                               | Monthly rate.                                                                | In years.                                                                        |                                                                                                                                                                                                         | Per month.                            |                                                                    | Annual rate.                                                                                 |
| 0-1                                                                | 100 000                                    | 4 733                         | 47.33                                                                        | 49.32                                                                            | 8 038                                                                                                                                                                                                   | 20.40                                 | 4 932 108                                                          | 20.28                                                                                        |
| 1-2                                                                | 95 267                                     | 1 227                         | 12.88                                                                        | 51.69                                                                            | 7 888                                                                                                                                                                                                   | 77.16                                 | 4 924 070                                                          | 19.35                                                                                        |
| 2-3                                                                | 94 040                                     | 1 057                         | 11.24                                                                        | 52.28                                                                            | 7 793                                                                                                                                                                                                   | 88.44                                 | 4 916 182                                                          | 19.13                                                                                        |
| 3-4                                                                | 92 983                                     | 931                           | 10.02                                                                        | 52.79                                                                            | 7 710                                                                                                                                                                                                   | 99.36                                 | 4 908 389                                                          | 18.94                                                                                        |
| 4-5                                                                | 92 052                                     | 828                           | 8.99                                                                         | 53.24                                                                            | 7 636                                                                                                                                                                                                   | 110.64                                | 4 900 679                                                          | 18.78                                                                                        |
| 5-6                                                                | 91 224                                     | 714                           | 8.16                                                                         | 53.64                                                                            | 7 571                                                                                                                                                                                                   | 122.16                                | 4 893 043                                                          | 18.64                                                                                        |
| 6-7                                                                | 90 480                                     | 674                           | 7.45                                                                         | 54.00                                                                            | 7 512                                                                                                                                                                                                   | 133.80                                | 4 885 472                                                          | 18.52                                                                                        |
| 7-8                                                                | 89 806                                     | 609                           | 6.78                                                                         | 54.32                                                                            | 7 458                                                                                                                                                                                                   | 147.00                                | 4 877 960                                                          | 18.41                                                                                        |
| 8-9                                                                | 89 197                                     | 551                           | 6.18                                                                         | 54.60                                                                            | 7 410                                                                                                                                                                                                   | 161.40                                | 4 870 502                                                          | 18.32                                                                                        |
| 9-10                                                               | 88 616                                     | 503                           | 5.67                                                                         | 54.86                                                                            | 7 366                                                                                                                                                                                                   | 175.68                                | 4 863 092                                                          | 18.23                                                                                        |
| 10-11                                                              | 88 143                                     | 459                           | 5.21                                                                         | 55.09                                                                            | 7 326                                                                                                                                                                                                   | 191.52                                | 4 855 726                                                          | 18.15                                                                                        |
| 11-12                                                              | 87 684                                     | 422                           | 4.81                                                                         | 55.29                                                                            | 7 289                                                                                                                                                                                                   | 207.24                                | 4 848 400                                                          | 18.09                                                                                        |
| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.   |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                         |                                       |                                                                    |                                                                                              |
| Years.                                                             |                                            |                               | Annual rate.                                                                 | In years.                                                                        |                                                                                                                                                                                                         | Per year.                             |                                                                    | Annual rate.                                                                                 |
| 0-1                                                                | 100 000                                    | 12 738                        | 127.38                                                                       | 49.32                                                                            | 90 997                                                                                                                                                                                                  | 7.14                                  | 4 932 108                                                          | 20.28                                                                                        |
| 1-2                                                                | 87 262                                     | 2 634                         | 30.19                                                                        | 55.48                                                                            | 85 708                                                                                                                                                                                                  | 32.51                                 | 4 841 111                                                          | 18.02                                                                                        |
| 2-3                                                                | 84 628                                     | 1 161                         | 13.75                                                                        | 56.19                                                                            | 84 011                                                                                                                                                                                                  | 72.17                                 | 4 755 403                                                          | 17.80                                                                                        |
| 3-4                                                                | 83 464                                     | 734                           | 8.80                                                                         | 55.97                                                                            | 83 082                                                                                                                                                                                                  | 113.19                                | 4 671 392                                                          | 17.87                                                                                        |
| 4-5                                                                | 82 730                                     | 535                           | 6.47                                                                         | 55.46                                                                            | 82 452                                                                                                                                                                                                  | 151.12                                | 4 588 310                                                          | 18.03                                                                                        |
| 5-6                                                                | 82 195                                     | 431                           | 5.24                                                                         | 54.82                                                                            | 81 980                                                                                                                                                                                                  | 190.21                                | 4 505 858                                                          | 18.24                                                                                        |
| 6-7                                                                | 81 764                                     | 361                           | 4.43                                                                         | 54.11                                                                            | 81 583                                                                                                                                                                                                  | 225.99                                | 4 423 878                                                          | 18.48                                                                                        |
| 7-8                                                                | 81 403                                     | 306                           | 3.75                                                                         | 53.34                                                                            | 81 250                                                                                                                                                                                                  | 265.52                                | 4 342 295                                                          | 18.75                                                                                        |
| 8-9                                                                | 81 097                                     | 262                           | 3.23                                                                         | 52.54                                                                            | 80 966                                                                                                                                                                                                  | 309.03                                | 4 261 015                                                          | 19.03                                                                                        |
| 9-10                                                               | 80 835                                     | 230                           | 2.85                                                                         | 51.71                                                                            | 80 720                                                                                                                                                                                                  | 350.96                                | 4 180 079                                                          | 19.34                                                                                        |
| 10-11                                                              | 80 605                                     | 211                           | 2.61                                                                         | 50.86                                                                            | 80 500                                                                                                                                                                                                  | 381.52                                | 4 099 359                                                          | 19.66                                                                                        |
| 11-12                                                              | 80 394                                     | 202                           | 2.51                                                                         | 49.99                                                                            | 80 293                                                                                                                                                                                                  | 397.49                                | 4 018 859                                                          | 20.00                                                                                        |
| 12-13                                                              | 80 192                                     | 203                           | 2.54                                                                         | 49.11                                                                            | 80 091                                                                                                                                                                                                  | 394.54                                | 3 938 566                                                          | 20.36                                                                                        |
| 13-14                                                              | 79 989                                     | 214                           | 2.67                                                                         | 48.24                                                                            | 79 882                                                                                                                                                                                                  | 373.28                                | 3 858 475                                                          | 20.73                                                                                        |
| 14-15                                                              | 79 775                                     | 231                           | 2.90                                                                         | 47.37                                                                            | 79 660                                                                                                                                                                                                  | 344.85                                | 3 778 593                                                          | 21.11                                                                                        |
| 15-16                                                              | 79 544                                     | 253                           | 3.19                                                                         | 46.50                                                                            | 79 418                                                                                                                                                                                                  | 313.91                                | 3 698 993                                                          | 21.51                                                                                        |
| 16-17                                                              | 79 291                                     | 282                           | 3.56                                                                         | 45.65                                                                            | 79 150                                                                                                                                                                                                  | 280.67                                | 3 619 515                                                          | 21.91                                                                                        |
| 17-18                                                              | 79 009                                     | 315                           | 3.99                                                                         | 44.81                                                                            | 78 851                                                                                                                                                                                                  | 250.32                                | 3 540 365                                                          | 22.32                                                                                        |
| 18-19                                                              | 78 694                                     | 350                           | 4.45                                                                         | 43.99                                                                            | 78 519                                                                                                                                                                                                  | 224.34                                | 3 461 514                                                          | 22.73                                                                                        |
| 19-20                                                              | 78 344                                     | 387                           | 4.94                                                                         | 43.18                                                                            | 78 150                                                                                                                                                                                                  | 201.94                                | 3 382 995                                                          | 23.16                                                                                        |
| 20-21                                                              | 77 957                                     | 425                           | 5.46                                                                         | 42.39                                                                            | 77 744                                                                                                                                                                                                  | 182.93                                | 3 304 845                                                          | 23.59                                                                                        |
| 21-22                                                              | 77 532                                     | 454                           | 5.85                                                                         | 41.62                                                                            | 77 305                                                                                                                                                                                                  | 170.28                                | 3 227 101                                                          | 24.03                                                                                        |
| 22-23                                                              | 77 078                                     | 461                           | 6.03                                                                         | 40.87                                                                            | 76 846                                                                                                                                                                                                  | 165.62                                | 3 149 796                                                          | 24.47                                                                                        |
| 23-24                                                              | 76 611                                     | 466                           | 6.08                                                                         | 40.11                                                                            | 76 381                                                                                                                                                                                                  | 163.91                                | 3 072 950                                                          | 24.93                                                                                        |
| 24-25                                                              | 76 148                                     | 469                           | 6.16                                                                         | 39.35                                                                            | 75 914                                                                                                                                                                                                  | 161.86                                | 2 996 569                                                          | 25.41                                                                                        |
| 25-26                                                              | 75 679                                     | 471                           | 6.22                                                                         | 38.59                                                                            | 75 444                                                                                                                                                                                                  | 160.18                                | 2 920 655                                                          | 25.91                                                                                        |
| 26-27                                                              | 75 208                                     | 476                           | 6.33                                                                         | 37.83                                                                            | 74 970                                                                                                                                                                                                  | 157.50                                | 2 845 211                                                          | 26.43                                                                                        |
| 27-28                                                              | 74 732                                     | 487                           | 6.52                                                                         | 37.07                                                                            | 74 489                                                                                                                                                                                                  | 152.95                                | 2 770 241                                                          | 26.98                                                                                        |
| 28-29                                                              | 74 245                                     | 504                           | 6.79                                                                         | 36.31                                                                            | 73 993                                                                                                                                                                                                  | 146.81                                | 2 695 752                                                          | 27.54                                                                                        |
| 29-30                                                              | 73 741                                     | 519                           | 7.04                                                                         | 35.55                                                                            | 73 481                                                                                                                                                                                                  | 141.58                                | 2 621 759                                                          | 28.13                                                                                        |
| 30-31                                                              | 73 222                                     | 535                           | 7.31                                                                         | 34.80                                                                            | 72 954                                                                                                                                                                                                  | 136.36                                | 2 548 278                                                          | 28.74                                                                                        |
| 31-32                                                              | 72 687                                     | 554                           | 7.62                                                                         | 34.05                                                                            | 72 410                                                                                                                                                                                                  | 130.70                                | 2 475 324                                                          | 29.37                                                                                        |
| 32-33                                                              | 72 133                                     | 575                           | 7.97                                                                         | 33.31                                                                            | 71 846                                                                                                                                                                                                  | 124.95                                | 2 402 914                                                          | 30.02                                                                                        |
| 33-34                                                              | 71 558                                     | 597                           | 8.34                                                                         | 32.58                                                                            | 71 260                                                                                                                                                                                                  | 119.36                                | 2 331 068                                                          | 30.69                                                                                        |
| 34-35                                                              | 70 961                                     | 619                           | 8.73                                                                         | 31.85                                                                            | 70 652                                                                                                                                                                                                  | 114.14                                | 2 259 808                                                          | 31.40                                                                                        |
| 35-36                                                              | 70 342                                     | 643                           | 9.14                                                                         | 31.12                                                                            | 70 021                                                                                                                                                                                                  | 108.90                                | 2 189 156                                                          | 32.13                                                                                        |
| 36-37                                                              | 69 699                                     | 661                           | 9.49                                                                         | 30.40                                                                            | 69 369                                                                                                                                                                                                  | 104.95                                | 2 119 135                                                          | 32.89                                                                                        |
| 37-38                                                              | 69 038                                     | 673                           | 9.75                                                                         | 29.69                                                                            | 68 702                                                                                                                                                                                                  | 102.08                                | 2 049 766                                                          | 33.68                                                                                        |
| 38-39                                                              | 68 365                                     | 680                           | 9.95                                                                         | 28.98                                                                            | 68 025                                                                                                                                                                                                  | 100.04                                | 1 981 064                                                          | 34.51                                                                                        |
| 39-40                                                              | 67 685                                     | 689                           | 10.18                                                                        | 28.26                                                                            | 67 340                                                                                                                                                                                                  | 97.74                                 | 1 913 039                                                          | 35.39                                                                                        |
| 40-41                                                              | 66 996                                     | 697                           | 10.40                                                                        | 27.55                                                                            | 66 648                                                                                                                                                                                                  | 95.62                                 | 1 845 699                                                          | 36.30                                                                                        |
| 41-42                                                              | 66 299                                     | 709                           | 10.70                                                                        | 26.83                                                                            | 65 945                                                                                                                                                                                                  | 93.01                                 | 1 779 051                                                          | 37.27                                                                                        |
| 42-43                                                              | 65 590                                     | 732                           | 11.16                                                                        | 26.12                                                                            | 65 224                                                                                                                                                                                                  | 89.10                                 | 1 713 106                                                          | 38.28                                                                                        |
| 43-44                                                              | 64 878                                     | 761                           | 11.74                                                                        | 25.41                                                                            | 64 478                                                                                                                                                                                                  | 84.73                                 | 1 647 882                                                          | 39.35                                                                                        |
| 44-45                                                              | 64 097                                     | 793                           | 12.37                                                                        | 24.70                                                                            | 63 701                                                                                                                                                                                                  | 80.33                                 | 1 583 404                                                          | 40.49                                                                                        |

## ORIGINAL REGISTRATION STATES: 1901 TO 1910.

## TABLE 8

REPORTED DEATHS IN 1901 (169,530), IN 1902 (163,387), IN 1903 (167,134), IN 1904 (178,963), IN 1905 (177,105), IN 1906 IN 1909 (182,373), AND IN 1910 (194,791).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE INTERVAL. | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|---------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|               |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
|               | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                   | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$  | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1             | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                       | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 63 304 | 829   | 13.10        | 24.01     | 62 890 | 75.86     | 1 519 703 | 41.65        |
| 46-47                                                                      | 62 475 | 860   | 13.76        | 23.32     | 62 045 | 72.15     | 1 456 813 | 42.88        |
| 47-48                                                                      | 61 615 | 876   | 14.22        | 22.64     | 61 177 | 69.84     | 1 394 768 | 44.17        |
| 48-49                                                                      | 60 739 | 883   | 14.54        | 21.96     | 60 297 | 68.29     | 1 333 591 | 45.54        |
| 49-50                                                                      | 59 856 | 893   | 14.92        | 21.27     | 59 409 | 66.53     | 1 273 294 | 47.01        |
| 50-51                                                                      | 58 963 | 901   | 15.28        | 20.59     | 58 513 | 64.94     | 1 213 885 | 48.57        |
| 51-52                                                                      | 58 062 | 920   | 15.85        | 19.90     | 57 602 | 62.61     | 1 155 372 | 50.25        |
| 52-53                                                                      | 57 142 | 962   | 16.83        | 19.21     | 56 661 | 58.90     | 1 097 770 | 52.06        |
| 53-54                                                                      | 56 180 | 1 021 | 18.18        | 18.53     | 55 669 | 54.52     | 1 041 109 | 53.97        |
| 54-55                                                                      | 55 159 | 1 084 | 19.66        | 17.87     | 54 617 | 50.38     | 985 440   | 55.96        |
| 55-56                                                                      | 54 075 | 1 156 | 21.38        | 17.21     | 53 497 | 46.28     | 930 823   | 58.11        |
| 56-57                                                                      | 52 919 | 1 227 | 23.18        | 16.58     | 52 306 | 42.63     | 877 326   | 60.31        |
| 57-58                                                                      | 51 692 | 1 283 | 24.83        | 15.96     | 51 051 | 39.79     | 825 020   | 62.66        |
| 58-59                                                                      | 50 409 | 1 330 | 26.37        | 15.35     | 49 744 | 37.40     | 773 969   | 65.15        |
| 59-60                                                                      | 49 079 | 1 378 | 28.09        | 14.76     | 48 390 | 35.12     | 724 225   | 67.75        |
| 60-61                                                                      | 47 701 | 1 426 | 29.90        | 14.17     | 46 988 | 32.95     | 675 835   | 70.37        |
| 61-62                                                                      | 46 275 | 1 478 | 31.93        | 13.59     | 45 536 | 30.81     | 628 847   | 73.38        |
| 62-63                                                                      | 44 797 | 1 537 | 34.32        | 13.02     | 44 039 | 28.65     | 583 311   | 76.80        |
| 63-64                                                                      | 43 260 | 1 602 | 37.04        | 12.47     | 42 459 | 26.50     | 539 282   | 80.19        |
| 64-65                                                                      | 41 658 | 1 662 | 39.88        | 11.93     | 40 827 | 24.56     | 496 823   | 83.82        |
| 65-66                                                                      | 39 996 | 1 717 | 42.92        | 11.40     | 39 138 | 22.79     | 455 996   | 87.72        |
| 66-67                                                                      | 38 279 | 1 762 | 46.05        | 10.89     | 37 398 | 21.22     | 416 858   | 91.83        |
| 67-68                                                                      | 36 517 | 1 797 | 49.22        | 10.39     | 35 618 | 19.82     | 379 460   | 96.25        |
| 68-69                                                                      | 34 720 | 1 824 | 52.53        | 9.90      | 33 808 | 18.54     | 343 842   | 101.01       |
| 69-70                                                                      | 32 896 | 1 846 | 56.11        | 9.42      | 31 973 | 17.32     | 310 034   | 106.16       |
| 70-71                                                                      | 31 050 | 1 860 | 59.90        | 8.96      | 30 120 | 16.19     | 278 061   | 111.61       |
| 71-72                                                                      | 29 190 | 1 877 | 64.31        | 8.49      | 28 252 | 15.05     | 247 911   | 117.79       |
| 72-73                                                                      | 27 313 | 1 902 | 69.63        | 8.04      | 26 362 | 13.86     | 219 689   | 124.38       |
| 73-74                                                                      | 25 411 | 1 925 | 75.79        | 7.61      | 24 449 | 12.70     | 193 327   | 131.41       |
| 74-75                                                                      | 23 486 | 1 939 | 82.54        | 7.19      | 22 516 | 11.61     | 168 878   | 139.08       |
| 75-76                                                                      | 21 547 | 1 942 | 90.15        | 6.79      | 20 576 | 10.60     | 146 362   | 147.28       |
| 76-77                                                                      | 19 605 | 1 922 | 98.03        | 6.42      | 18 644 | 9.70      | 125 786   | 155.76       |
| 77-78                                                                      | 17 683 | 1 870 | 105.76       | 6.06      | 16 748 | 8.96      | 107 142   | 165.02       |
| 78-79                                                                      | 15 813 | 1 797 | 113.64       | 5.72      | 14 914 | 8.30      | 90 394    | 174.83       |
| 79-80                                                                      | 14 016 | 1 721 | 122.81       | 5.39      | 13 155 | 7.64      | 75 450    | 185.53       |
| 80-81                                                                      | 12 295 | 1 644 | 133.66       | 5.07      | 11 473 | 6.98      | 62 325    | 197.24       |
| 81-82                                                                      | 10 651 | 1 548 | 145.39       | 4.77      | 9 877  | 6.38      | 50 852    | 209.64       |
| 82-83                                                                      | 9 103  | 1 429 | 156.97       | 4.50      | 8 388  | 5.87      | 40 975    | 222.22       |
| 83-84                                                                      | 7 674  | 1 299 | 169.30       | 4.25      | 7 024  | 5.41      | 32 587    | 235.29       |
| 84-85                                                                      | 6 375  | 1 161 | 182.08       | 4.01      | 5 794  | 4.99      | 25 563    | 249.38       |
| 85-86                                                                      | 5 214  | 1 017 | 195.04       | 3.79      | 4 706  | 4.63      | 19 769    | 263.85       |
| 86-87                                                                      | 4 197  | 873   | 208.05       | 3.59      | 3 760  | 4.31      | 15 063    | 278.55       |
| 87-88                                                                      | 3 324  | 735   | 221.09       | 3.40      | 2 956  | 4.02      | 11 303    | 294.12       |
| 88-89                                                                      | 2 589  | 606   | 234.23       | 3.22      | 2 286  | 3.77      | 8 317     | 310.56       |
| 89-90                                                                      | 1 983  | 491   | 247.63       | 3.06      | 1 737  | 3.54      | 6 061     | 326.80       |
| 90-91                                                                      | 1 492  | 390   | 261.48       | 2.90      | 1 297  | 3.32      | 4 324     | 344.83       |
| 91-92                                                                      | 1 102  | 304   | 275.88       | 2.75      | 950    | 3.12      | 3 027     | 363.64       |
| 92-93                                                                      | 798    | 232   | 290.92       | 2.60      | 682    | 2.94      | 2 077     | 384.62       |
| 93-94                                                                      | 566    | 174   | 306.60       | 2.47      | 479    | 2.76      | 1 395     | 404.86       |
| 94-95                                                                      | 392    | 126   | 322.91       | 2.34      | 329    | 2.60      | 916       | 427.35       |
| 95-96                                                                      | 266    | 91    | 339.81       | 2.21      | 220    | 2.44      | 587       | 452.49       |
| 96-97                                                                      | 175    | 62    | 357.34       | 2.09      | 144    | 2.30      | 367       | 478.47       |
| 97-98                                                                      | 113    | 43    | 375.58       | 1.98      | 92     | 2.16      | 223       | 505.05       |
| 98-99                                                                      | 70     | 27    | 394.71       | 1.87      | 56     | 2.07      | 131       | 531.76       |
| 99-100                                                                     | 43     | 18    | 414.95       | 1.77      | 34     | 1.91      | 75        | 564.97       |
| 100-101                                                                    | 25     | 11    | 436.52       | 1.66      | 19     | 1.79      | 41        | 602.41       |
| 101-102                                                                    | 14     | 6     | 459.66       | 1.56      | 11     | 1.68      | 22        | 641.03       |
| 102-103                                                                    | 8      | 4     | 484.16       | 1.47      | 6      | 1.57      | 11        | 680.27       |
| 103-104                                                                    | 4      | 2     | 510.09       | 1.38      | 3      | 1.46      | 5         | 724.64       |
| 104-105                                                                    | 2      | 1     | 537.58       | 1.29      | 1      | 1.36      | 2         | 775.19       |
| 105-106                                                                    | 1      | 1     | 566.72       | 1.20      | 1      | 1.26      | 1         | 833.33       |

TABLE 9

## LIFE TABLE FOR WHITE MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (11,932,963), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE<br>INTERVAL.                                                   | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|--------------------------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                                    |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages.                | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                                       | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                                  | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |
| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |                                                  |                                  |                                                                                               |                                                                                              |                                                                                                                                                                                                            |                                             |                                                                               |                                                                                                                 |
| Months.                                                            |                                                  |                                  | Monthly rate.                                                                                 | In years.                                                                                    |                                                                                                                                                                                                            | Per month.                                  |                                                                               | Annual rate.                                                                                                    |
| 0-1                                                                | 100 000                                          | 4 844                            | 48.44                                                                                         | 50.23                                                                                        | 8 031                                                                                                                                                                                                      | 19.92                                       | 5 023 371                                                                     | 19.91                                                                                                           |
| 1-2                                                                | 95 156                                           | 1 212                            | 13.05                                                                                         | 52.71                                                                                        | 7 878                                                                                                                                                                                                      | 76.08                                       | 5 015 340                                                                     | 18.97                                                                                                           |
| 2-3                                                                | 93 914                                           | 1 012                            | 10.78                                                                                         | 53.32                                                                                        | 7 781                                                                                                                                                                                                      | 92.28                                       | 5 007 462                                                                     | 18.75                                                                                                           |
| 3-4                                                                | 92 902                                           | 863                              | 9.28                                                                                          | 53.82                                                                                        | 7 706                                                                                                                                                                                                      | 107.16                                      | 4 999 678                                                                     | 18.58                                                                                                           |
| 4-5                                                                | 92 039                                           | 750                              | 8.15                                                                                          | 54.24                                                                                        | 7 639                                                                                                                                                                                                      | 122.28                                      | 4 991 972                                                                     | 18.44                                                                                                           |
| 5-6                                                                | 91 289                                           | 673                              | 7.37                                                                                          | 54.60                                                                                        | 7 579                                                                                                                                                                                                      | 135.12                                      | 4 984 333                                                                     | 18.32                                                                                                           |
| 6-7                                                                | 90 616                                           | 610                              | 6.73                                                                                          | 54.92                                                                                        | 7 526                                                                                                                                                                                                      | 148.08                                      | 4 976 754                                                                     | 18.21                                                                                                           |
| 7-8                                                                | 90 006                                           | 553                              | 6.15                                                                                          | 55.21                                                                                        | 7 477                                                                                                                                                                                                      | 162.24                                      | 4 969 228                                                                     | 18.11                                                                                                           |
| 8-9                                                                | 89 453                                           | 503                              | 5.62                                                                                          | 55.47                                                                                        | 7 433                                                                                                                                                                                                      | 177.36                                      | 4 961 751                                                                     | 18.03                                                                                                           |
| 9-10                                                               | 88 950                                           | 457                              | 5.14                                                                                          | 55.70                                                                                        | 7 393                                                                                                                                                                                                      | 194.16                                      | 4 954 318                                                                     | 17.95                                                                                                           |
| 10-11                                                              | 88 493                                           | 420                              | 4.74                                                                                          | 55.90                                                                                        | 7 357                                                                                                                                                                                                      | 210.24                                      | 4 946 925                                                                     | 17.89                                                                                                           |
| 11-12                                                              | 88 073                                           | 399                              | 4.53                                                                                          | 56.08                                                                                        | 7 323                                                                                                                                                                                                      | 220.20                                      | 4 939 568                                                                     | 17.83                                                                                                           |
| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.   |                                                  |                                  |                                                                                               |                                                                                              |                                                                                                                                                                                                            |                                             |                                                                               |                                                                                                                 |
| Years.                                                             |                                                  |                                  | Annual rate.                                                                                  | In years.                                                                                    |                                                                                                                                                                                                            | Per year.                                   |                                                                               | Annual rate.                                                                                                    |
| 0-1                                                                | 100 000                                          | 12 326                           | 123.26                                                                                        | 50.23                                                                                        | 91 126                                                                                                                                                                                                     | 7.39                                        | 5 023 371                                                                     | 19.91                                                                                                           |
| 1-2                                                                | 87 674                                           | 2 473                            | 28.21                                                                                         | 56.26                                                                                        | 86 215                                                                                                                                                                                                     | 34.86                                       | 4 932 245                                                                     | 17.77                                                                                                           |
| 2-3                                                                | 85 201                                           | 1 084                            | 12.73                                                                                         | 56.88                                                                                        | 84 626                                                                                                                                                                                                     | 78.07                                       | 4 846 030                                                                     | 17.68                                                                                                           |
| 3-4                                                                | 81 117                                           | 668                              | 7.93                                                                                          | 56.60                                                                                        | 83 770                                                                                                                                                                                                     | 125.40                                      | 4 761 104                                                                     | 17.67                                                                                                           |
| 4-5                                                                | 83 449                                           | 477                              | 5.72                                                                                          | 56.05                                                                                        | 83 201                                                                                                                                                                                                     | 174.43                                      | 4 677 634                                                                     | 17.84                                                                                                           |
| 5-6                                                                | 82 972                                           | 391                              | 4.71                                                                                          | 55.37                                                                                        | 82 777                                                                                                                                                                                                     | 211.71                                      | 4 594 433                                                                     | 18.06                                                                                                           |
| 6-7                                                                | 82 581                                           | 330                              | 4.00                                                                                          | 54.63                                                                                        | 82 416                                                                                                                                                                                                     | 249.75                                      | 4 511 656                                                                     | 18.30                                                                                                           |
| 7-8                                                                | 82 251                                           | 280                              | 3.40                                                                                          | 53.85                                                                                        | 82 111                                                                                                                                                                                                     | 293.25                                      | 4 429 240                                                                     | 18.57                                                                                                           |
| 8-9                                                                | 81 971                                           | 240                              | 2.93                                                                                          | 53.03                                                                                        | 81 851                                                                                                                                                                                                     | 341.05                                      | 4 347 129                                                                     | 18.86                                                                                                           |
| 9-10                                                               | 81 731                                           | 212                              | 2.59                                                                                          | 52.19                                                                                        | 81 625                                                                                                                                                                                                     | 385.02                                      | 4 265 278                                                                     | 19.16                                                                                                           |
| 10-11                                                              | 81 519                                           | 194                              | 2.38                                                                                          | 51.32                                                                                        | 81 422                                                                                                                                                                                                     | 419.70                                      | 4 183 653                                                                     | 19.49                                                                                                           |
| 11-12                                                              | 81 325                                           | 185                              | 2.28                                                                                          | 50.44                                                                                        | 81 232                                                                                                                                                                                                     | 439.09                                      | 4 102 231                                                                     | 19.83                                                                                                           |
| 12-13                                                              | 81 140                                           | 166                              | 2.29                                                                                          | 49.56                                                                                        | 81 047                                                                                                                                                                                                     | 435.71                                      | 4 020 999                                                                     | 20.18                                                                                                           |
| 13-14                                                              | 80 951                                           | 195                              | 2.41                                                                                          | 48.67                                                                                        | 80 856                                                                                                                                                                                                     | 414.65                                      | 3 939 952                                                                     | 20.55                                                                                                           |
| 14-15                                                              | 80 759                                           | 210                              | 2.59                                                                                          | 47.79                                                                                        | 80 654                                                                                                                                                                                                     | 384.07                                      | 3 859 096                                                                     | 20.92                                                                                                           |
| 15-16                                                              | 80 549                                           | 228                              | 2.83                                                                                          | 46.91                                                                                        | 80 435                                                                                                                                                                                                     | 352.79                                      | 3 778 442                                                                     | 21.32                                                                                                           |
| 16-17                                                              | 80 321                                           | 253                              | 3.15                                                                                          | 46.01                                                                                        | 80 195                                                                                                                                                                                                     | 316.98                                      | 3 698 007                                                                     | 21.72                                                                                                           |
| 17-18                                                              | 80 068                                           | 283                              | 3.55                                                                                          | 45.18                                                                                        | 79 926                                                                                                                                                                                                     | 282.42                                      | 3 617 812                                                                     | 22.13                                                                                                           |
| 18-19                                                              | 79 785                                           | 318                              | 3.98                                                                                          | 44.34                                                                                        | 79 626                                                                                                                                                                                                     | 250.40                                      | 3 537 886                                                                     | 22.55                                                                                                           |
| 19-20                                                              | 79 467                                           | 361                              | 4.42                                                                                          | 43.52                                                                                        | 79 291                                                                                                                                                                                                     | 225.90                                      | 3 458 260                                                                     | 22.98                                                                                                           |
| 20-21                                                              | 79 116                                           | 387                              | 4.89                                                                                          | 42.71                                                                                        | 78 922                                                                                                                                                                                                     | 203.93                                      | 3 378 969                                                                     | 23.41                                                                                                           |
| 21-22                                                              | 78 729                                           | 413                              | 5.24                                                                                          | 41.92                                                                                        | 78 522                                                                                                                                                                                                     | 190.13                                      | 3 300 047                                                                     | 23.85                                                                                                           |
| 22-23                                                              | 78 316                                           | 422                              | 5.39                                                                                          | 41.13                                                                                        | 78 105                                                                                                                                                                                                     | 185.08                                      | 3 221 525                                                                     | 24.31                                                                                                           |
| 23-24                                                              | 77 894                                           | 422                              | 5.42                                                                                          | 40.36                                                                                        | 77 683                                                                                                                                                                                                     | 181.08                                      | 3 143 420                                                                     | 24.78                                                                                                           |
| 24-25                                                              | 77 472                                           | 425                              | 5.48                                                                                          | 39.57                                                                                        | 77 259                                                                                                                                                                                                     | 181.79                                      | 3 065 737                                                                     | 25.27                                                                                                           |
| 25-26                                                              | 77 047                                           | 426                              | 5.54                                                                                          | 38.79                                                                                        | 76 834                                                                                                                                                                                                     | 180.36                                      | 2 988 478                                                                     | 25.78                                                                                                           |
| 26-27                                                              | 76 621                                           | 432                              | 5.63                                                                                          | 38.00                                                                                        | 76 405                                                                                                                                                                                                     | 176.86                                      | 2 911 644                                                                     | 26.32                                                                                                           |
| 27-28                                                              | 76 189                                           | 443                              | 5.82                                                                                          | 37.21                                                                                        | 75 968                                                                                                                                                                                                     | 171.49                                      | 2 835 239                                                                     | 26.87                                                                                                           |
| 28-29                                                              | 75 746                                           | 460                              | 6.07                                                                                          | 36.43                                                                                        | 75 516                                                                                                                                                                                                     | 164.17                                      | 2 759 271                                                                     | 27.45                                                                                                           |
| 29-30                                                              | 75 286                                           | 476                              | 6.33                                                                                          | 35.65                                                                                        | 75 048                                                                                                                                                                                                     | 157.66                                      | 2 683 755                                                                     | 28.05                                                                                                           |
| 30-31                                                              | 74 810                                           | 494                              | 6.60                                                                                          | 34.87                                                                                        | 74 563                                                                                                                                                                                                     | 150.91                                      | 2 608 707                                                                     | 28.68                                                                                                           |
| 31-32                                                              | 74 316                                           | 515                              | 6.93                                                                                          | 34.10                                                                                        | 74 058                                                                                                                                                                                                     | 143.80                                      | 2 534 144                                                                     | 29.33                                                                                                           |
| 32-33                                                              | 73 801                                           | 540                              | 7.31                                                                                          | 33.33                                                                                        | 73 531                                                                                                                                                                                                     | 136.17                                      | 2 460 086                                                                     | 30.00                                                                                                           |
| 33-34                                                              | 73 261                                           | 561                              | 7.70                                                                                          | 32.58                                                                                        | 72 979                                                                                                                                                                                                     | 129.40                                      | 2 386 555                                                                     | 30.69                                                                                                           |
| 34-35                                                              | 72 697                                           | 589                              | 8.10                                                                                          | 31.82                                                                                        | 72 402                                                                                                                                                                                                     | 122.92                                      | 2 313 576                                                                     | 31.43                                                                                                           |
| 35-36                                                              | 72 108                                           | 614                              | 8.52                                                                                          | 31.08                                                                                        | 71 801                                                                                                                                                                                                     | 116.94                                      | 2 241 174                                                                     | 32.18                                                                                                           |
| 36-37                                                              | 71 494                                           | 636                              | 8.90                                                                                          | 30.34                                                                                        | 71 176                                                                                                                                                                                                     | 111.91                                      | 2 169 373                                                                     | 32.96                                                                                                           |
| 37-38                                                              | 70 858                                           | 654                              | 9.23                                                                                          | 29.61                                                                                        | 70 531                                                                                                                                                                                                     | 107.85                                      | 2 098 197                                                                     | 33.77                                                                                                           |
| 38-39                                                              | 70 204                                           | 670                              | 9.54                                                                                          | 28.88                                                                                        | 69 869                                                                                                                                                                                                     | 104.28                                      | 2 027 666                                                                     | 34.63                                                                                                           |
| 39-40                                                              | 69 534                                           | 686                              | 9.87                                                                                          | 28.16                                                                                        | 69 191                                                                                                                                                                                                     | 100.86                                      | 1 957 797                                                                     | 35.51                                                                                                           |
| 40-41                                                              | 68 848                                           | 704                              | 10.22                                                                                         | 27.43                                                                                        | 68 496                                                                                                                                                                                                     | 97.30                                       | 1 888 606                                                                     | 36.46                                                                                                           |
| 41-42                                                              | 68 144                                           | 722                              | 10.60                                                                                         | 26.71                                                                                        | 67 783                                                                                                                                                                                                     | 93.88                                       | 1 820 110                                                                     | 37.44                                                                                                           |
| 42-43                                                              | 67 422                                           | 744                              | 11.04                                                                                         | 25.99                                                                                        | 67 050                                                                                                                                                                                                     | 90.12                                       | 1 752 327                                                                     | 38.48                                                                                                           |
| 43-44                                                              | 66 678                                           | 769                              | 11.52                                                                                         | 25.27                                                                                        | 66 294                                                                                                                                                                                                     | 86.21                                       | 1 685 277                                                                     | 39.57                                                                                                           |
| 44-45                                                              | 65 909                                           | 794                              | 12.05                                                                                         | 24.56                                                                                        | 65 512                                                                                                                                                                                                     | 82.51                                       | 1 618 983                                                                     | 40.72                                                                                                           |



## ORIGINAL REGISTRATION STATES: 1910.

## TABLE 9

REPORTED DEATHS IN 1909 (182,373), IN 1910 (194,791), AND IN 1911 (190,497).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                   | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                       | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 65 115 | 823   | 12.61        | 23.86     | 61 703 | 78.62     | 1 553 471 | 41.91        |
| 46-47                                                                      | 64 292 | 852   | 13.25        | 23.16     | 63 866 | 74.96     | 1 488 768 | 43.18        |
| 47-48                                                                      | 63 410 | 877   | 13.83        | 22.46     | 63 001 | 71.84     | 1 424 902 | 44.32        |
| 48-49                                                                      | 62 563 | 900   | 14.37        | 21.77     | 62 113 | 69.01     | 1 361 901 | 45.93        |
| 49-50                                                                      | 61 663 | 922   | 14.95        | 21.08     | 61 202 | 66.38     | 1 299 788 | 47.44        |
| 50-51                                                                      | 60 741 | 943   | 15.53        | 20.39     | 60 270 | 63.91     | 1 238 586 | 49.04        |
| 51-52                                                                      | 59 798 | 971   | 16.21        | 19.70     | 59 312 | 61.08     | 1 178 316 | 50.76        |
| 52-53                                                                      | 58 827 | 1 012 | 17.21        | 19.02     | 58 321 | 57.63     | 1 119 004 | 52.58        |
| 53-54                                                                      | 57 815 | 1 067 | 18.45        | 18.35     | 57 281 | 53.68     | 1 060 683 | 54.50        |
| 54-55                                                                      | 56 748 | 1 126 | 19.85        | 17.68     | 56 185 | 49.90     | 1 003 402 | 56.56        |
| 55-56                                                                      | 55 622 | 1 196 | 21.50        | 17.03     | 55 024 | 46.01     | 947 217   | 58.72        |
| 56-57                                                                      | 54 426 | 1 268 | 23.30        | 16.39     | 53 792 | 42.42     | 892 193   | 61.01        |
| 57-58                                                                      | 53 158 | 1 333 | 25.08        | 15.77     | 52 491 | 39.38     | 838 401   | 63.41        |
| 58-59                                                                      | 51 825 | 1 390 | 26.81        | 15.16     | 51 130 | 36.78     | 785 910   | 65.96        |
| 59-60                                                                      | 50 435 | 1 448 | 28.71        | 14.57     | 49 711 | 34.33     | 734 780   | 68.63        |
| 60-61                                                                      | 48 987 | 1 506 | 30.75        | 13.98     | 48 234 | 32.03     | 685 069   | 71.53        |
| 61-62                                                                      | 47 481 | 1 565 | 32.95        | 13.41     | 46 699 | 29.81     | 636 835   | 74.57        |
| 62-63                                                                      | 45 916 | 1 625 | 35.41        | 12.85     | 45 104 | 27.76     | 590 136   | 77.82        |
| 63-64                                                                      | 44 291 | 1 687 | 38.09        | 12.31     | 43 447 | 25.75     | 545 032   | 81.23        |
| 64-65                                                                      | 42 604 | 1 742 | 40.88        | 11.77     | 41 733 | 23.96     | 501 585   | 84.96        |
| 65-66                                                                      | 40 862 | 1 789 | 43.79        | 11.25     | 39 967 | 22.34     | 459 852   | 88.89        |
| 66-67                                                                      | 39 073 | 1 832 | 46.87        | 10.75     | 38 157 | 20.83     | 419 885   | 93.02        |
| 67-68                                                                      | 37 241 | 1 870 | 50.23        | 10.25     | 36 306 | 19.41     | 381 728   | 97.56        |
| 68-69                                                                      | 35 371 | 1 907 | 53.92        | 9.77      | 34 417 | 18.05     | 345 422   | 102.35       |
| 69-70                                                                      | 33 464 | 1 937 | 57.88        | 9.29      | 32 495 | 16.78     | 311 005   | 107.64       |
| 70-71                                                                      | 31 527 | 1 959 | 62.14        | 8.83      | 30 547 | 15.59     | 278 510   | 113.25       |
| 71-72                                                                      | 29 568 | 1 978 | 66.90        | 8.39      | 28 579 | 14.45     | 247 963   | 119.19       |
| 72-73                                                                      | 27 590 | 1 995 | 72.30        | 7.95      | 26 592 | 13.33     | 219 384   | 125.79       |
| 73-74                                                                      | 25 595 | 2 005 | 78.33        | 7.53      | 24 592 | 12.27     | 192 792   | 132.80       |
| 74-75                                                                      | 23 590 | 2 005 | 84.99        | 7.13      | 22 587 | 11.27     | 168 200   | 140.25       |
| 75-76                                                                      | 21 585 | 1 997 | 92.53        | 6.75      | 20 586 | 10.31     | 145 613   | 148.15       |
| 76-77                                                                      | 19 588 | 1 966 | 100.24       | 6.38      | 18 605 | 9.46      | 125 027   | 156.74       |
| 77-78                                                                      | 17 622 | 1 904 | 108.04       | 6.04      | 16 670 | 8.76      | 106 422   | 165.56       |
| 78-79                                                                      | 15 718 | 1 821 | 115.88       | 5.71      | 14 808 | 8.13      | 89 752    | 175.13       |
| 79-80                                                                      | 13 897 | 1 737 | 124.98       | 5.39      | 13 029 | 7.50      | 74 944    | 185.53       |
| 80-81                                                                      | 12 160 | 1 651 | 135.75       | 5.09      | 11 335 | 6.87      | 61 915    | 196.46       |
| 81-82                                                                      | 10 509 | 1 547 | 147.28       | 4.81      | 9 736  | 6.29      | 50 580    | 207.90       |
| 82-83                                                                      | 8 962  | 1 419 | 158.33       | 4.56      | 8 262  | 5.82      | 40 844    | 219.30       |
| 83-84                                                                      | 7 543  | 1 271 | 168.54       | 4.32      | 6 907  | 5.43      | 32 592    | 231.48       |
| 84-85                                                                      | 6 272  | 1 127 | 179.56       | 4.10      | 5 708  | 5.07      | 25 685    | 243.90       |
| 85-86                                                                      | 5 145  | 983   | 191.11       | 3.88      | 4 654  | 4.73      | 19 977    | 257.73       |
| 86-87                                                                      | 4 162  | 845   | 203.07       | 3.68      | 3 739  | 4.42      | 15 323    | 271.74       |
| 87-88                                                                      | 3 317  | 715   | 215.45       | 3.49      | 2 960  | 4.14      | 11 584    | 286.53       |
| 88-89                                                                      | 2 602  | 594   | 228.30       | 3.31      | 2 305  | 3.88      | 8 624     | 302.11       |
| 89-90                                                                      | 2 008  | 485   | 241.57       | 3.15      | 1 766  | 3.64      | 6 319     | 317.46       |
| 90-91                                                                      | 1 523  | 389   | 255.17       | 2.99      | 1 329  | 3.42      | 4 553     | 334.45       |
| 91-92                                                                      | 1 134  | 305   | 268.87       | 2.84      | 982    | 3.22      | 3 224     | 352.11       |
| 92-93                                                                      | 829    | 234   | 282.56       | 2.70      | 712    | 3.04      | 2 242     | 370.37       |
| 93-94                                                                      | 595    | 176   | 296.24       | 2.57      | 507    | 2.88      | 1 530     | 389.11       |
| 94-95                                                                      | 419    | 130   | 310.21       | 2.44      | 354    | 2.72      | 1 023     | 409.84       |
| 95-96                                                                      | 289    | 94    | 324.86       | 2.31      | 242    | 2.58      | 669       | 432.90       |
| 96-97                                                                      | 195    | 66    | 340.85       | 2.19      | 162    | 2.43      | 427       | 456.62       |
| 97-98                                                                      | 129    | 47    | 358.73       | 2.06      | 105    | 2.29      | 265       | 485.44       |
| 98-99                                                                      | 82     | 31    | 379.05       | 1.93      | 67     | 2.14      | 160       | 518.13       |
| 99-100                                                                     | 51     | 20    | 401.97       | 1.80      | 41     | 1.99      | 93        | 555.56       |
| 100-101                                                                    | 31     | 13    | 427.46       | 1.68      | 24     | 1.84      | 52        | 595.24       |
| 101-102                                                                    | 18     | 8     | 455.22       | 1.56      | 14     | 1.70      | 28        | 641.03       |
| 102-103                                                                    | 10     | 5     | 485.01       | 1.45      | 7      | 1.56      | 14        | 689.66       |
| 103-104                                                                    | 5      | 3     | 516.40       | 1.34      | 4      | 1.44      | 7         | 746.27       |
| 104-105                                                                    | 2      | 1     | 548.76       | 1.25      | 2      | 1.32      | 3         | 800.00       |
| 105-106                                                                    | 1      | 1     | 582.65       | 1.15      | 1      | 1.22      | 1         | 869.57       |

## UNITED STATES LIFE TABLES.

TABLE 10

## LIFE TABLE FOR WHITE FEMALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (9,972,995), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE<br>INTERVAL.                                                   | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|--------------------------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                                    |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages.                | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                                       | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                                  | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |
| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |                                                  |                                  |                                                                                               |                                                                                              |                                                                                                                                                                                                                |                                             |                                                                               |                                                                                                                 |
| Months.                                                            |                                                  |                                  | Monthly rate.                                                                                 | In years.                                                                                    |                                                                                                                                                                                                                | Per month.                                  |                                                                               | Annual rate.                                                                                                    |
| 0-1                                                                | 100 000                                          | 3 505                            | 35.05                                                                                         | 51.08                                                                                        | 8 114                                                                                                                                                                                                          | 27.72                                       | 5 107 990                                                                     | 19.58                                                                                                           |
| 1-2                                                                | 96 495                                           | 986                              | 10.22                                                                                         | 52.85                                                                                        | 8 000                                                                                                                                                                                                          | 97.32                                       | 5 099 876                                                                     | 18.92                                                                                                           |
| 2-3                                                                | 95 509                                           | 922                              | 9.66                                                                                          | 53.31                                                                                        | 7 921                                                                                                                                                                                                          | 103.08                                      | 5 091 876                                                                     | 18.76                                                                                                           |
| 3-4                                                                | 91 587                                           | 859                              | 9.07                                                                                          | 53.75                                                                                        | 7 846                                                                                                                                                                                                          | 109.56                                      | 5 083 955                                                                     | 18.60                                                                                                           |
| 4-5                                                                | 93 728                                           | 793                              | 8.47                                                                                          | 54.16                                                                                        | 7 778                                                                                                                                                                                                          | 117.72                                      | 5 076 109                                                                     | 18.46                                                                                                           |
| 5-6                                                                | 92 935                                           | 731                              | 7.86                                                                                          | 54.54                                                                                        | 7 711                                                                                                                                                                                                          | 126.60                                      | 5 068 331                                                                     | 18.34                                                                                                           |
| 6-7                                                                | 92 204                                           | 668                              | 7.25                                                                                          | 54.89                                                                                        | 7 656                                                                                                                                                                                                          | 137.52                                      | 5 060 617                                                                     | 18.22                                                                                                           |
| 7-8                                                                | 91 536                                           | 607                              | 6.61                                                                                          | 55.20                                                                                        | 7 603                                                                                                                                                                                                          | 150.36                                      | 5 052 961                                                                     | 18.12                                                                                                           |
| 8-9                                                                | 90 929                                           | 557                              | 6.12                                                                                          | 55.49                                                                                        | 7 551                                                                                                                                                                                                          | 162.72                                      | 5 045 358                                                                     | 18.02                                                                                                           |
| 9-10                                                               | 90 372                                           | 508                              | 5.63                                                                                          | 55.75                                                                                        | 7 510                                                                                                                                                                                                          | 177.36                                      | 5 037 804                                                                     | 17.94                                                                                                           |
| 10-11                                                              | 89 861                                           | 472                              | 5.25                                                                                          | 55.98                                                                                        | 7 469                                                                                                                                                                                                          | 189.84                                      | 5 030 291                                                                     | 17.86                                                                                                           |
| 11-12                                                              | 89 392                                           | 453                              | 5.06                                                                                          | 56.19                                                                                        | 7 430                                                                                                                                                                                                          | 196.80                                      | 5 022 825                                                                     | 17.80                                                                                                           |
| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.   |                                                  |                                  |                                                                                               |                                                                                              |                                                                                                                                                                                                                |                                             |                                                                               |                                                                                                                 |
| Years.                                                             |                                                  |                                  | Annual rate.                                                                                  | In years.                                                                                    |                                                                                                                                                                                                                | Per year.                                   |                                                                               | Annual rate.                                                                                                    |
| 0-1                                                                | 100 000                                          | 11 061                           | 110.61                                                                                        | 51.08                                                                                        | 92 595                                                                                                                                                                                                         | 8.37                                        | 5 107 990                                                                     | 19.58                                                                                                           |
| 1-2                                                                | 88 939                                           | 2 771                            | 31.15                                                                                         | 56.39                                                                                        | 87 304                                                                                                                                                                                                         | 31.51                                       | 5 015 395                                                                     | 17.73                                                                                                           |
| 2-3                                                                | 86 168                                           | 1 278                            | 14.84                                                                                         | 57.19                                                                                        | 85 491                                                                                                                                                                                                         | 66.89                                       | 4 928 091                                                                     | 17.49                                                                                                           |
| 3-4                                                                | 81 890                                           | 829                              | 9.76                                                                                          | 57.05                                                                                        | 84 459                                                                                                                                                                                                         | 101.88                                      | 4 842 600                                                                     | 17.53                                                                                                           |
| 4-5                                                                | 81 061                                           | 635                              | 7.55                                                                                          | 56.60                                                                                        | 83 731                                                                                                                                                                                                         | 131.86                                      | 4 758 141                                                                     | 17.67                                                                                                           |
| 5-6                                                                | 83 426                                           | 492                              | 5.89                                                                                          | 56.03                                                                                        | 83 180                                                                                                                                                                                                         | 169.07                                      | 4 674 410                                                                     | 17.85                                                                                                           |
| 6-7                                                                | 82 934                                           | 398                              | 4.80                                                                                          | 55.36                                                                                        | 82 735                                                                                                                                                                                                         | 207.88                                      | 4 591 230                                                                     | 18.06                                                                                                           |
| 7-8                                                                | 82 536                                           | 323                              | 3.91                                                                                          | 54.62                                                                                        | 82 375                                                                                                                                                                                                         | 255.03                                      | 4 508 495                                                                     | 18.31                                                                                                           |
| 8-9                                                                | 82 213                                           | 265                              | 3.23                                                                                          | 53.81                                                                                        | 82 081                                                                                                                                                                                                         | 309.74                                      | 4 426 120                                                                     | 18.57                                                                                                           |
| 9-10                                                               | 81 918                                           | 225                              | 2.74                                                                                          | 53.01                                                                                        | 81 836                                                                                                                                                                                                         | 363.72                                      | 4 344 039                                                                     | 18.86                                                                                                           |
| 10-11                                                              | 81 723                                           | 201                              | 2.46                                                                                          | 52.15                                                                                        | 81 623                                                                                                                                                                                                         | 406.08                                      | 4 262 203                                                                     | 19.18                                                                                                           |
| 11-12                                                              | 81 522                                           | 192                              | 2.36                                                                                          | 51.28                                                                                        | 81 426                                                                                                                                                                                                         | 424.09                                      | 4 180 580                                                                     | 19.50                                                                                                           |
| 12-13                                                              | 81 330                                           | 197                              | 2.43                                                                                          | 50.40                                                                                        | 81 231                                                                                                                                                                                                         | 412.31                                      | 4 099 154                                                                     | 19.84                                                                                                           |
| 13-14                                                              | 81 133                                           | 214                              | 2.63                                                                                          | 49.52                                                                                        | 81 026                                                                                                                                                                                                         | 378.63                                      | 4 017 923                                                                     | 20.19                                                                                                           |
| 14-15                                                              | 80 919                                           | 239                              | 2.96                                                                                          | 48.65                                                                                        | 80 800                                                                                                                                                                                                         | 338.08                                      | 3 936 897                                                                     | 20.55                                                                                                           |
| 15-16                                                              | 80 680                                           | 271                              | 3.39                                                                                          | 47.79                                                                                        | 80 543                                                                                                                                                                                                         | 293.95                                      | 3 856 097                                                                     | 20.92                                                                                                           |
| 16-17                                                              | 80 406                                           | 309                              | 3.85                                                                                          | 46.96                                                                                        | 80 252                                                                                                                                                                                                         | 259.72                                      | 3 775 551                                                                     | 21.29                                                                                                           |
| 17-18                                                              | 80 097                                           | 342                              | 4.27                                                                                          | 46.14                                                                                        | 79 926                                                                                                                                                                                                         | 233.70                                      | 3 695 362                                                                     | 21.67                                                                                                           |
| 18-19                                                              | 79 755                                           | 372                              | 4.67                                                                                          | 45.33                                                                                        | 79 569                                                                                                                                                                                                         | 213.90                                      | 3 615 376                                                                     | 22.06                                                                                                           |
| 19-20                                                              | 79 383                                           | 405                              | 5.10                                                                                          | 44.54                                                                                        | 79 180                                                                                                                                                                                                         | 195.51                                      | 3 535 807                                                                     | 22.45                                                                                                           |
| 20-21                                                              | 78 978                                           | 438                              | 5.54                                                                                          | 43.77                                                                                        | 78 759                                                                                                                                                                                                         | 179.82                                      | 3 456 627                                                                     | 22.85                                                                                                           |
| 21-22                                                              | 78 510                                           | 461                              | 5.92                                                                                          | 43.01                                                                                        | 78 308                                                                                                                                                                                                         | 168.77                                      | 3 377 868                                                                     | 23.25                                                                                                           |
| 22-23                                                              | 78 076                                           | 481                              | 6.19                                                                                          | 42.26                                                                                        | 77 834                                                                                                                                                                                                         | 160.81                                      | 3 299 560                                                                     | 23.66                                                                                                           |
| 23-24                                                              | 77 592                                           | 496                              | 6.39                                                                                          | 41.52                                                                                        | 77 344                                                                                                                                                                                                         | 155.91                                      | 3 221 726                                                                     | 24.08                                                                                                           |
| 24-25                                                              | 77 096                                           | 508                              | 6.60                                                                                          | 40.79                                                                                        | 76 842                                                                                                                                                                                                         | 151.26                                      | 3 144 382                                                                     | 24.52                                                                                                           |
| 25-26                                                              | 76 588                                           | 520                              | 6.79                                                                                          | 40.05                                                                                        | 76 328                                                                                                                                                                                                         | 146.78                                      | 3 067 540                                                                     | 24.97                                                                                                           |
| 26-27                                                              | 76 068                                           | 530                              | 6.97                                                                                          | 39.32                                                                                        | 75 803                                                                                                                                                                                                         | 143.02                                      | 2 991 212                                                                     | 25.43                                                                                                           |
| 27-28                                                              | 75 538                                           | 510                              | 7.15                                                                                          | 38.60                                                                                        | 75 268                                                                                                                                                                                                         | 139.39                                      | 2 915 409                                                                     | 25.91                                                                                                           |
| 28-29                                                              | 74 998                                           | 551                              | 7.34                                                                                          | 37.87                                                                                        | 74 723                                                                                                                                                                                                         | 135.61                                      | 2 840 141                                                                     | 26.41                                                                                                           |
| 29-30                                                              | 74 447                                           | 560                              | 7.53                                                                                          | 37.15                                                                                        | 74 167                                                                                                                                                                                                         | 132.44                                      | 2 765 418                                                                     | 26.92                                                                                                           |
| 30-31                                                              | 73 887                                           | 571                              | 7.72                                                                                          | 36.42                                                                                        | 73 602                                                                                                                                                                                                         | 128.90                                      | 2 691 251                                                                     | 27.46                                                                                                           |
| 31-32                                                              | 73 316                                           | 579                              | 7.90                                                                                          | 35.70                                                                                        | 73 027                                                                                                                                                                                                         | 126.13                                      | 2 617 649                                                                     | 28.01                                                                                                           |
| 32-33                                                              | 72 737                                           | 585                              | 8.05                                                                                          | 34.98                                                                                        | 72 444                                                                                                                                                                                                         | 123.84                                      | 2 544 622                                                                     | 28.59                                                                                                           |
| 33-34                                                              | 72 152                                           | 589                              | 8.16                                                                                          | 34.26                                                                                        | 71 858                                                                                                                                                                                                         | 122.00                                      | 2 472 178                                                                     | 29.19                                                                                                           |
| 34-35                                                              | 71 563                                           | 592                              | 8.28                                                                                          | 33.54                                                                                        | 71 267                                                                                                                                                                                                         | 120.38                                      | 2 400 320                                                                     | 29.82                                                                                                           |
| 35-36                                                              | 70 971                                           | 595                              | 8.39                                                                                          | 32.82                                                                                        | 70 673                                                                                                                                                                                                         | 118.78                                      | 2 329 053                                                                     | 30.47                                                                                                           |
| 36-37                                                              | 70 376                                           | 599                              | 8.51                                                                                          | 32.09                                                                                        | 70 076                                                                                                                                                                                                         | 116.99                                      | 2 258 380                                                                     | 31.16                                                                                                           |
| 37-38                                                              | 69 777                                           | 606                              | 8.68                                                                                          | 31.36                                                                                        | 69 474                                                                                                                                                                                                         | 114.61                                      | 2 188 304                                                                     | 31.89                                                                                                           |
| 38-39                                                              | 69 171                                           | 611                              | 8.88                                                                                          | 30.63                                                                                        | 68 864                                                                                                                                                                                                         | 112.16                                      | 2 118 830                                                                     | 32.65                                                                                                           |
| 39-40                                                              | 68 557                                           | 622                              | 9.08                                                                                          | 29.90                                                                                        | 68 246                                                                                                                                                                                                         | 109.72                                      | 2 049 966                                                                     | 33.44                                                                                                           |
| 40-41                                                              | 67 935                                           | 632                              | 9.31                                                                                          | 29.17                                                                                        | 67 619                                                                                                                                                                                                         | 106.99                                      | 1 981 720                                                                     | 34.28                                                                                                           |
| 41-42                                                              | 67 303                                           | 642                              | 9.53                                                                                          | 28.44                                                                                        | 66 982                                                                                                                                                                                                         | 104.33                                      | 1 914 101                                                                     | 35.16                                                                                                           |
| 42-43                                                              | 66 661                                           | 651                              | 9.76                                                                                          | 27.71                                                                                        | 66 336                                                                                                                                                                                                         | 101.90                                      | 1 847 119                                                                     | 36.09                                                                                                           |
| 43-44                                                              | 66 010                                           | 660                              | 10.01                                                                                         | 26.98                                                                                        | 65 680                                                                                                                                                                                                         | 99.52                                       | 1 780 783                                                                     | 37.06                                                                                                           |
| 44-45                                                              | 65 350                                           | 673                              | 10.30                                                                                         | 26.24                                                                                        | 65 013                                                                                                                                                                                                         | 96.60                                       | 1 715 103                                                                     | 38.11                                                                                                           |

## ORIGINAL REGISTRATION STATES: 1901.

## TABLE 10

REPORTED DEATHS IN 1900 (159,079), IN 1901 (152,418), AND IN 1902 (145,163).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE<br>INTERVAL.                                    | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 61 677 | 688   | 10.63        | 25.51     | 61 333 | 93.51     | 1 650 090 | 39.20        |
| 46-47                                                                      | 63 989 | 707   | 11.05        | 24.78     | 63 636 | 90.01     | 1 585 757 | 40.36        |
| 47-48                                                                      | 63 282 | 731   | 11.56        | 24.05     | 62 916 | 86.07     | 1 522 121 | 41.58        |
| 48-49                                                                      | 62 551 | 759   | 12.13        | 23.33     | 62 171 | 81.91     | 1 459 205 | 42.86        |
| 49-50                                                                      | 61 792 | 787   | 12.74        | 22.61     | 61 398 | 78.02     | 1 397 034 | 44.23        |
| 50-51                                                                      | 61 005 | 816   | 13.37        | 21.89     | 60 597 | 74.26     | 1 335 636 | 45.68        |
| 51-52                                                                      | 60 189 | 849   | 14.11        | 21.18     | 59 764 | 70.39     | 1 275 039 | 47.21        |
| 52-53                                                                      | 59 310 | 892   | 15.03        | 20.48     | 58 894 | 66.02     | 1 215 275 | 48.83        |
| 53-54                                                                      | 58 418 | 943   | 16.12        | 19.78     | 57 976 | 61.48     | 1 156 381 | 50.56        |
| 54-55                                                                      | 57 505 | 996   | 17.33        | 19.10     | 57 007 | 57.24     | 1 098 405 | 52.36        |
| 55-56                                                                      | 56 569 | 1 056 | 18.69        | 18.43     | 55 981 | 53.01     | 1 041 398 | 54.26        |
| 56-57                                                                      | 55 453 | 1 113 | 20.07        | 17.77     | 54 896 | 49.32     | 985 417   | 56.27        |
| 57-58                                                                      | 54 340 | 1 158 | 21.31        | 17.12     | 53 761 | 46.43     | 930 521   | 58.41        |
| 58-59                                                                      | 53 182 | 1 196 | 22.48        | 16.49     | 52 584 | 43.97     | 876 760   | 60.64        |
| 59-60                                                                      | 51 986 | 1 231 | 23.75        | 15.85     | 51 369 | 41.63     | 824 176   | 63.09        |
| 60-61                                                                      | 50 752 | 1 272 | 25.06        | 15.23     | 50 116 | 39.40     | 772 807   | 65.66        |
| 61-62                                                                      | 49 480 | 1 317 | 26.63        | 14.61     | 48 821 | 37.07     | 722 691   | 68.45        |
| 62-63                                                                      | 48 163 | 1 380 | 28.65        | 13.99     | 47 473 | 34.40     | 673 870   | 71.48        |
| 63-64                                                                      | 46 783 | 1 453 | 31.06        | 13.39     | 46 056 | 31.70     | 626 397   | 74.68        |
| 64-65                                                                      | 45 330 | 1 524 | 33.63        | 12.80     | 44 568 | 29.24     | 580 341   | 78.13        |
| 65-66                                                                      | 43 806 | 1 595 | 36.41        | 12.23     | 43 008 | 26.96     | 535 773   | 81.77        |
| 66-67                                                                      | 42 211 | 1 663 | 39.39        | 11.67     | 41 379 | 24.88     | 492 765   | 85.69        |
| 67-68                                                                      | 40 548 | 1 724 | 42.52        | 11.13     | 39 686 | 23.02     | 451 386   | 89.85        |
| 68-69                                                                      | 38 824 | 1 781 | 45.87        | 10.60     | 37 933 | 21.30     | 411 700   | 94.34        |
| 69-70                                                                      | 37 043 | 1 837 | 49.59        | 10.09     | 36 125 | 19.67     | 373 767   | 99.11        |
| 70-71                                                                      | 35 206 | 1 890 | 53.69        | 9.59      | 34 261 | 18.13     | 337 642   | 104.28       |
| 71-72                                                                      | 33 316 | 1 939 | 58.20        | 9.11      | 32 346 | 16.68     | 303 381   | 109.77       |
| 72-73                                                                      | 31 377 | 1 978 | 63.04        | 8.64      | 30 386 | 15.36     | 271 035   | 115.74       |
| 73-74                                                                      | 29 399 | 2 008 | 68.31        | 8.19      | 28 395 | 14.14     | 240 647   | 122.10       |
| 74-75                                                                      | 27 391 | 2 029 | 74.07        | 7.75      | 26 376 | 13.00     | 212 252   | 129.03       |
| 75-76                                                                      | 25 362 | 2 039 | 80.39        | 7.33      | 24 342 | 11.94     | 185 876   | 136.43       |
| 76-77                                                                      | 23 323 | 2 036 | 87.31        | 6.93      | 22 305 | 10.96     | 161 534   | 144.30       |
| 77-78                                                                      | 21 287 | 2 020 | 94.87        | 6.54      | 20 277 | 10.04     | 139 229   | 152.91       |
| 78-79                                                                      | 19 267 | 1 985 | 103.05       | 6.17      | 18 275 | 9.21      | 118 952   | 162.07       |
| 79-80                                                                      | 17 282 | 1 933 | 111.84       | 5.83      | 16 315 | 8.44      | 100 677   | 171.53       |
| 80-81                                                                      | 15 349 | 1 859 | 121.15       | 5.50      | 14 419 | 7.75      | 84 362    | 181.82       |
| 81-82                                                                      | 13 490 | 1 767 | 130.94       | 5.19      | 12 606 | 7.14      | 69 943    | 192.68       |
| 82-83                                                                      | 11 723 | 1 655 | 141.16       | 4.89      | 10 896 | 6.58      | 57 337    | 204.50       |
| 83-84                                                                      | 10 068 | 1 528 | 151.79       | 4.61      | 9 304  | 6.09      | 46 441    | 216.92       |
| 84-85                                                                      | 8 540  | 1 391 | 162.90       | 4.35      | 7 844  | 5.61      | 37 137    | 229.89       |
| 85-86                                                                      | 7 149  | 1 248 | 174.60       | 4.10      | 6 525  | 5.23      | 29 293    | 243.90       |
| 86-87                                                                      | 5 901  | 1 104 | 187.01       | 3.86      | 5 349  | 4.85      | 22 768    | 259.07       |
| 87-88                                                                      | 4 797  | 960   | 200.26       | 3.63      | 4 317  | 4.49      | 17 419    | 275.48       |
| 88-89                                                                      | 3 837  | 823   | 214.41       | 3.41      | 3 425  | 4.16      | 13 102    | 293.26       |
| 89-90                                                                      | 3 014  | 692   | 229.45       | 3.21      | 2 668  | 3.86      | 9 677     | 311.53       |
| 90-91                                                                      | 2 322  | 569   | 245.32       | 3.02      | 2 038  | 3.58      | 7 009     | 331.13       |
| 91-92                                                                      | 1 753  | 459   | 261.93       | 2.84      | 1 523  | 3.32      | 4 971     | 352.11       |
| 92-93                                                                      | 1 294  | 362   | 279.25       | 2.67      | 1 113  | 3.08      | 3 418     | 371.53       |
| 93-94                                                                      | 932    | 277   | 297.27       | 2.50      | 794    | 2.86      | 2 335     | 400.00       |
| 94-95                                                                      | 655    | 207   | 316.05       | 2.35      | 552    | 2.66      | 1 541     | 425.53       |
| 95-96                                                                      | 448    | 150   | 335.71       | 2.21      | 373    | 2.48      | 989       | 452.49       |
| 96-97                                                                      | 298    | 106   | 356.38       | 2.07      | 245    | 2.31      | 616       | 483.09       |
| 97-98                                                                      | 192    | 73    | 378.24       | 1.94      | 155    | 2.14      | 371       | 515.46       |
| 98-99                                                                      | 119    | 48    | 401.10       | 1.81      | 95     | 1.99      | 216       | 552.49       |
| 99-100                                                                     | 71     | 30    | 425.94       | 1.70      | 56     | 1.85      | 121       | 588.24       |
| 100-101                                                                    | 41     | 19    | 451.93       | 1.58      | 32     | 1.71      | 65        | 632.91       |
| 101-102                                                                    | 22     | 10    | 479.35       | 1.48      | 17     | 1.59      | 33        | 675.68       |
| 102-103                                                                    | 12     | 6     | 508.17       | 1.38      | 9      | 1.47      | 16        | 724.61       |
| 103-104                                                                    | 6      | 3     | 538.42       | 1.28      | 4      | 1.36      | 7         | 781.25       |
| 104-105                                                                    | 3      | 2     | 570.15       | 1.19      | 2      | 1.25      | 3         | 840.34       |
| 105-106                                                                    | 1      | 1     | 603.40       | 1.10      | 1      | 1.16      | 1         | 909.09       |

TABLE 11

## LIFE TABLE FOR WHITE FEMALES IN THE

BASED ON THE ESTIMATED MEAN POPULATION FOR THE 10-YEAR PERIOD, 1901 TO 1910 (10,812,512), AND ON THE (159,942), IN 1907 (164,912), IN 1908 (159,081),

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE INTERVAL. | OF 100,000 FEMALES BORN ALIVE:             |                                            | RATE OF MORTALITY PER THOUSAND. | COMPLETE EXPECTATION OF LIFE.                                                | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                                       |                                                    |                                                                    |
|---------------|--------------------------------------------|--------------------------------------------|---------------------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------|
|               |                                            |                                            |                                 |                                                                              | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS. | DEATH RATE PER THOUSAND.                                           |
|               | Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval.   | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval.                                                                                                                            | Including only those in current month or year of age. | Population per death in age interval.              | Sum of numbers in column 8 in current and all older age intervals. |
| $x$ to $x+1$  | $L_x$                                      | $d_x$                                      | $1000q_x$                       | $e_x$                                                                        | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                                             | $T_x$                                              | $1000L_x/T_x$                                                      |
| 1             | 2                                          | 3                                          | 4                               | 5                                                                            | 6                                                                                                                                                                                                           | 7                                                     | 8                                                  | 9                                                                  |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            |         |       | Monthly rate. | In years. |       | Per month. |           | Annual rate. |
| 0-1                                                                | 100 000 | 3 684 | 36.84         | 52.54     | 8 103 | 26.40      | 5 253 956 | 19.03        |
| 1-2                                                                | 96 316  | 983   | 10.21         | 54.47     | 7 985 | 57.44      | 5 245 853 | 18.36        |
| 2-3                                                                | 95 333  | 879   | 9.23          | 54.94     | 7 908 | 108.00     | 5 237 868 | 18.20        |
| 3-4                                                                | 94 454  | 783   | 8.29          | 55.37     | 7 839 | 120.12     | 5 229 960 | 18.06        |
| 4-5                                                                | 93 671  | 702   | 7.50          | 55.75     | 7 777 | 132.96     | 5 222 121 | 17.94        |
| 5-6                                                                | 92 969  | 639   | 6.87          | 56.09     | 7 721 | 144.96     | 5 214 344 | 17.83        |
| 6-7                                                                | 92 330  | 588   | 6.37          | 56.39     | 7 670 | 156.48     | 5 206 623 | 17.73        |
| 7-8                                                                | 91 742  | 510   | 5.58          | 56.67     | 7 623 | 169.44     | 5 198 953 | 17.65        |
| 8-9                                                                | 91 202  | 493   | 5.41          | 56.92     | 7 580 | 184.56     | 5 191 330 | 17.57        |
| 9-10                                                               | 90 709  | 450   | 4.96          | 57.15     | 7 540 | 201.12     | 5 183 750 | 17.50        |
| 10-11                                                              | 90 259  | 415   | 4.61          | 57.35     | 7 504 | 216.96     | 5 176 210 | 17.44        |
| 11-12                                                              | 89 844  | 395   | 4.39          | 57.53     | 7 471 | 226.92     | 5 168 706 | 17.38        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 10 551 | 105.51       | 52.54     | 92 721 | 8.79      | 5 253 956 | 19.03        |
| 1-2                                                              | 89 419  | 2 453  | 27.13        | 57.70     | 88 002 | 35.88     | 5 161 235 | 17.33        |
| 2-3                                                              | 86 996  | 1 097  | 12.61        | 58.32     | 86 414 | 78.77     | 5 073 233 | 17.15        |
| 3-4                                                              | 85 899  | 711    | 8.28         | 58.05     | 85 529 | 120.29    | 4 986 819 | 17.23        |
| 4-5                                                              | 85 188  | 520    | 6.10         | 57.53     | 84 917 | 163.30    | 4 901 290 | 17.38        |
| 5-6                                                              | 84 668  | 423    | 5.00         | 56.89     | 84 456 | 199.66    | 4 816 373 | 17.58        |
| 6-7                                                              | 84 215  | 350    | 4.16         | 56.17     | 84 070 | 240.20    | 4 731 917 | 17.80        |
| 7-8                                                              | 83 895  | 292    | 3.47         | 55.40     | 83 749 | 286.81    | 4 647 847 | 18.05        |
| 8-9                                                              | 83 603  | 246    | 2.94         | 54.59     | 83 480 | 339.35    | 4 564 098 | 18.32        |
| 9-10                                                             | 83 357  | 214    | 2.57         | 53.75     | 83 260 | 389.02    | 4 480 618 | 18.60        |
| 10-11                                                            | 83 143  | 196    | 2.36         | 52.89     | 83 045 | 423.70    | 4 397 368 | 18.91        |
| 11-12                                                            | 82 947  | 190    | 2.29         | 52.01     | 82 832 | 436.06    | 4 314 323 | 19.23        |
| 12-13                                                            | 82 757  | 194    | 2.34         | 51.13     | 82 660 | 426.08    | 4 231 471 | 19.56        |
| 13-14                                                            | 82 563  | 207    | 2.51         | 50.25     | 82 460 | 398.36    | 4 148 811 | 19.90        |
| 14-15                                                            | 82 356  | 227    | 2.76         | 49.38     | 82 243 | 362.30    | 4 066 351 | 20.25        |
| 15-16                                                            | 82 129  | 254    | 3.09         | 48.51     | 82 002 | 322.84    | 3 984 108 | 20.61        |
| 16-17                                                            | 81 875  | 282    | 3.45         | 47.66     | 81 734 | 289.84    | 3 903 106 | 20.98        |
| 17-18                                                            | 81 593  | 310    | 3.80         | 46.82     | 81 438 | 262.70    | 3 820 372 | 21.36        |
| 18-19                                                            | 81 283  | 337    | 4.15         | 46.00     | 81 115 | 240.70    | 3 738 934 | 21.74        |
| 19-20                                                            | 80 946  | 365    | 4.51         | 45.19     | 80 763 | 221.27    | 3 657 819 | 22.13        |
| 20-21                                                            | 80 581  | 395    | 4.90         | 44.39     | 80 383 | 203.50    | 3 577 056 | 22.53        |
| 21-22                                                            | 80 186  | 418    | 5.21         | 43.61     | 79 977 | 191.33    | 3 496 673 | 22.93        |
| 22-23                                                            | 79 768  | 433    | 5.43         | 42.83     | 79 551 | 183.72    | 3 416 696 | 23.35        |
| 23-24                                                            | 79 333  | 444    | 5.59         | 42.06     | 79 113 | 178.18    | 3 337 145 | 23.78        |
| 24-25                                                            | 78 891  | 454    | 5.75         | 41.30     | 78 664 | 173.27    | 3 258 032 | 24.21        |
| 25-26                                                            | 78 437  | 463    | 5.91         | 40.53     | 78 206 | 168.91    | 3 179 368 | 24.67        |
| 26-27                                                            | 77 974  | 474    | 6.07         | 39.77     | 77 737 | 164.00    | 3 101 162 | 25.14        |
| 27-28                                                            | 77 500  | 481    | 6.25         | 39.01     | 77 258 | 159.62    | 3 023 425 | 25.63        |
| 28-29                                                            | 77 016  | 497    | 6.45         | 38.25     | 76 767 | 154.46    | 2 946 167 | 26.14        |
| 29-30                                                            | 76 519  | 510    | 6.65         | 37.50     | 76 264 | 149.54    | 2 869 400 | 26.67        |
| 30-31                                                            | 76 009  | 521    | 6.87         | 36.75     | 75 749 | 145.39    | 2 793 136 | 27.21        |
| 31-32                                                            | 75 488  | 534    | 7.07         | 36.00     | 75 221 | 140.86    | 2 717 387 | 27.78        |
| 32-33                                                            | 74 951  | 545    | 7.26         | 35.25     | 74 681 | 137.03    | 2 642 166 | 28.37        |
| 33-34                                                            | 74 409  | 553    | 7.43         | 34.51     | 74 133 | 134.06    | 2 567 485 | 28.98        |
| 34-35                                                            | 73 856  | 561    | 7.60         | 33.76     | 73 576 | 131.15    | 2 493 352 | 29.62        |
| 35-36                                                            | 73 295  | 570    | 7.77         | 33.01     | 73 010 | 128.09    | 2 419 776 | 30.29        |
| 36-37                                                            | 72 725  | 576    | 7.93         | 32.27     | 72 437 | 125.76    | 2 346 766 | 30.99        |
| 37-38                                                            | 72 149  | 583    | 8.07         | 31.52     | 71 857 | 123.25    | 2 274 329 | 31.73        |
| 38-39                                                            | 71 566  | 588    | 8.22         | 30.78     | 71 272 | 121.21    | 2 202 472 | 32.49        |
| 39-40                                                            | 70 978  | 595    | 8.38         | 30.03     | 70 681 | 118.79    | 2 131 200 | 33.30        |
| 40-41                                                            | 70 383  | 601    | 8.54         | 29.28     | 70 083 | 116.61    | 2 060 519 | 34.15        |
| 41-42                                                            | 69 782  | 611    | 8.76         | 28.52     | 69 477 | 113.71    | 1 990 436 | 35.06        |
| 42-43                                                            | 69 171  | 626    | 9.05         | 27.77     | 68 858 | 110.00    | 1 920 959 | 36.01        |
| 43-44                                                            | 68 545  | 644    | 9.41         | 27.02     | 68 223 | 105.94    | 1 852 101 | 37.01        |
| 44-45                                                            | 67 901  | 666    | 9.81         | 26.27     | 67 568 | 101.45    | 1 783 878 | 38.07        |

## ORIGINAL REGISTRATION STATES: 1901 TO 1910.

## TABLE 11

REPORTED DEATHS IN 1901 (152,418), IN 1902 (145,163), IN 1903 (149,516), IN 1904 (159,338), IN 1905 (157,239), IN 1906 (160,227), AND IN 1910 (170,233).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 67 235 | 691   | 10.27        | 25.53     | 66 889 | 96.80     | 1 716 310 | 39.17        |
| 46-47                                                                      | 66 544 | 716   | 10.76        | 24.79     | 66 186 | 92.44     | 1 649 421 | 40.34        |
| 47-48                                                                      | 65 828 | 740   | 11.24        | 24.05     | 65 458 | 88.46     | 1 583 235 | 41.58        |
| 48-49                                                                      | 65 088 | 762   | 11.71        | 23.32     | 64 707 | 84.92     | 1 517 777 | 42.88        |
| 49-50                                                                      | 64 326 | 787   | 12.24        | 22.59     | 63 932 | 81.24     | 1 453 070 | 44.27        |
| 50-51                                                                      | 63 539 | 812   | 12.78        | 21.86     | 63 133 | 77.75     | 1 389 138 | 45.75        |
| 51-52                                                                      | 62 727 | 844   | 13.45        | 21.14     | 62 305 | 73.82     | 1 326 005 | 47.30        |
| 52-53                                                                      | 61 883 | 887   | 14.34        | 20.42     | 61 439 | 69.27     | 1 263 700 | 48.97        |
| 53-54                                                                      | 60 996 | 942   | 15.44        | 19.71     | 60 525 | 64.25     | 1 202 261 | 50.74        |
| 54-55                                                                      | 60 054 | 1 001 | 16.67        | 19.01     | 59 551 | 59.49     | 1 141 736 | 52.60        |
| 55-56                                                                      | 59 053 | 1 068 | 18.08        | 18.33     | 58 519 | 54.79     | 1 082 182 | 54.56        |
| 56-57                                                                      | 57 985 | 1 135 | 19.58        | 17.65     | 57 418 | 50.59     | 1 023 663 | 56.66        |
| 57-58                                                                      | 56 850 | 1 196 | 21.03        | 17.00     | 56 252 | 47.03     | 966 245   | 58.82        |
| 58-59                                                                      | 55 654 | 1 247 | 22.42        | 16.35     | 55 031 | 44.13     | 909 993   | 61.16        |
| 59-60                                                                      | 54 407 | 1 303 | 23.94        | 15.71     | 53 755 | 41.25     | 854 962   | 63.65        |
| 60-61                                                                      | 53 104 | 1 356 | 25.53        | 15.09     | 52 426 | 38.66     | 801 207   | 66.27        |
| 61-62                                                                      | 51 748 | 1 414 | 27.33        | 14.47     | 51 041 | 36.10     | 748 781   | 69.11        |
| 62-63                                                                      | 50 334 | 1 484 | 29.49        | 13.86     | 49 592 | 33.42     | 697 740   | 72.15        |
| 63-64                                                                      | 48 850 | 1 562 | 31.97        | 13.27     | 48 069 | 30.77     | 648 148   | 75.36        |
| 64-65                                                                      | 47 288 | 1 634 | 34.57        | 12.69     | 46 471 | 28.44     | 600 079   | 78.80        |
| 65-66                                                                      | 45 654 | 1 705 | 37.33        | 12.13     | 44 802 | 26.28     | 553 608   | 82.44        |
| 66-67                                                                      | 43 949 | 1 770 | 40.28        | 11.58     | 43 064 | 24.33     | 508 806   | 86.36        |
| 67-68                                                                      | 42 179 | 1 831 | 43.43        | 11.04     | 41 263 | 22.54     | 465 742   | 90.58        |
| 68-69                                                                      | 40 348 | 1 890 | 46.84        | 10.52     | 39 403 | 20.85     | 424 479   | 95.06        |
| 69-70                                                                      | 38 458 | 1 946 | 50.59        | 10.01     | 37 485 | 19.26     | 385 076   | 99.90        |
| 70-71                                                                      | 36 512 | 1 998 | 54.72        | 9.52      | 35 513 | 17.77     | 347 591   | 105.04       |
| 71-72                                                                      | 34 514 | 2 044 | 59.23        | 9.04      | 33 492 | 16.39     | 312 078   | 110.62       |
| 72-73                                                                      | 32 470 | 2 081 | 64.09        | 8.58      | 31 429 | 15.10     | 278 586   | 116.55       |
| 73-74                                                                      | 30 389 | 2 106 | 69.29        | 8.13      | 29 336 | 13.93     | 247 157   | 123.00       |
| 74-75                                                                      | 28 283 | 2 120 | 74.95        | 7.70      | 27 223 | 12.84     | 217 821   | 129.87       |
| 75-76                                                                      | 26 163 | 2 122 | 81.14        | 7.29      | 25 102 | 11.83     | 190 598   | 137.17       |
| 76-77                                                                      | 24 041 | 2 109 | 87.71        | 6.88      | 22 986 | 10.90     | 165 496   | 145.35       |
| 77-78                                                                      | 21 912 | 2 078 | 94.77        | 6.50      | 20 893 | 10.05     | 142 510   | 153.85       |
| 78-79                                                                      | 19 854 | 2 037 | 102.56       | 6.13      | 18 836 | 9.25      | 121 617   | 163.13       |
| 79-80                                                                      | 17 817 | 1 986 | 111.52       | 5.77      | 16 824 | 8.47      | 103 781   | 173.31       |
| 80-81                                                                      | 15 831 | 1 924 | 122.14       | 5.43      | 14 864 | 7.69      | 85 957    | 184.16       |
| 81-82                                                                      | 13 897 | 1 856 | 133.54       | 5.12      | 12 969 | 6.99      | 71 093    | 195.31       |
| 82-83                                                                      | 12 041 | 1 739 | 144.41       | 4.83      | 11 172 | 6.42      | 58 124    | 207.04       |
| 83-84                                                                      | 10 302 | 1 592 | 154.51       | 4.56      | 9 506  | 5.97      | 46 952    | 219.30       |
| 84-85                                                                      | 8 710  | 1 445 | 165.91       | 4.30      | 7 988  | 5.53      | 37 446    | 232.56       |
| 85-86                                                                      | 7 265  | 1 297 | 178.61       | 4.05      | 6 617  | 5.10      | 29 458    | 246.91       |
| 86-87                                                                      | 5 968  | 1 144 | 191.60       | 3.83      | 5 396  | 4.72      | 22 841    | 261.10       |
| 87-88                                                                      | 4 824  | 986   | 204.46       | 3.62      | 4 331  | 4.39      | 17 445    | 276.24       |
| 88-89                                                                      | 3 838  | 835   | 217.43       | 3.42      | 3 421  | 4.10      | 13 114    | 292.10       |
| 89-90                                                                      | 3 003  | 696   | 231.75       | 3.23      | 2 655  | 3.81      | 9 693     | 309.60       |
| 90-91                                                                      | 2 307  | 569   | 246.87       | 3.05      | 2 023  | 3.55      | 7 038     | 337.87       |
| 91-92                                                                      | 1 738  | 457   | 262.65       | 2.89      | 1 510  | 3.31      | 5 015     | 346.02       |
| 92-93                                                                      | 1 281  | 357   | 278.76       | 2.74      | 1 103  | 3.09      | 3 505     | 364.96       |
| 93-94                                                                      | 924    | 272   | 294.77       | 2.60      | 788    | 2.89      | 2 402     | 381.62       |
| 94-95                                                                      | 652    | 202   | 310.26       | 2.48      | 551    | 2.72      | 1 614     | 403.23       |
| 95-96                                                                      | 450    | 147   | 324.90       | 2.37      | 377    | 2.58      | 1 063     | 421.94       |
| 96-97                                                                      | 303    | 102   | 338.69       | 2.27      | 252    | 2.45      | 686       | 440.53       |
| 97-98                                                                      | 201    | 71    | 351.88       | 2.17      | 165    | 2.34      | 434       | 460.83       |
| 98-99                                                                      | 130    | 47    | 365.07       | 2.08      | 106    | 2.24      | 269       | 480.77       |
| 99-100                                                                     | 83     | 32    | 378.85       | 1.99      | 67     | 2.14      | 163       | 502.51       |
| 100-101                                                                    | 51     | 20    | 393.81       | 1.90      | 41     | 2.04      | 96        | 526.32       |
| 101-102                                                                    | 31     | 13    | 410.34       | 1.80      | 25     | 1.94      | 55        | 553.56       |
| 102-103                                                                    | 18     | 8     | 428.71       | 1.71      | 14     | 1.83      | 30        | 584.80       |
| 103-104                                                                    | 10     | 4     | 448.87       | 1.61      | 8      | 1.73      | 16        | 621.12       |
| 104-105                                                                    | 6      | 3     | 470.64       | 1.52      | 4      | 1.62      | 8         | 657.89       |
| 105-106                                                                    | 3      | 1     | 495.50       | 1.43      | 2      | 1.53      | 4         | 699.30       |
| 106-107                                                                    | 2      | 1     | 520.29       | 1.34      | 1      | 1.42      | 2         | 746.27       |
| 107-108                                                                    | 1      | 1     | 547.27       | 1.26      | 1      | 1.33      | 1         | 793.65       |

## UNITED STATES LIFE TABLES.

TABLE 12

## LIFE TABLE FOR WHITE FEMALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (11,706,221), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE<br>INTERVAL.                                    | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            |         |       | Monthly rate. | In years. |       | Per month. |           | Annual rate. |
| 0-1                                                                | 100 000 | 3 787 | 37.87         | 53.62     | 8 097 | 25.68      | 5 361 770 | 18.65        |
| 1-2                                                                | 96 213  | 991   | 10.29         | 55.64     | 7 976 | 96.60      | 5 353 673 | 17.97        |
| 2-3                                                                | 95 222  | 850   | 8.93          | 56.14     | 7 900 | 111.48     | 5 345 697 | 17.81        |
| 3-4                                                                | 91 372  | 740   | 7.84          | 56.56     | 7 833 | 127.08     | 5 337 797 | 17.68        |
| 4-5                                                                | 93 632  | 648   | 6.92          | 56.92     | 7 776 | 144.00     | 5 329 964 | 17.57        |
| 5-6                                                                | 92 984  | 578   | 6.21          | 57.24     | 7 725 | 160.44     | 5 322 188 | 17.47        |
| 6-7                                                                | 92 406  | 526   | 5.70          | 57.51     | 7 679 | 175.20     | 5 314 463 | 17.39        |
| 7-8                                                                | 91 880  | 486   | 5.28          | 57.76     | 7 636 | 188.52     | 5 306 784 | 17.31        |
| 8-9                                                                | 91 394  | 450   | 4.93          | 57.98     | 7 597 | 202.56     | 5 299 148 | 17.25        |
| 9-10                                                               | 90 914  | 421   | 4.62          | 58.18     | 7 561 | 215.52     | 5 291 551 | 17.19        |
| 10-11                                                              | 90 523  | 390   | 4.31          | 58.37     | 7 527 | 231.60     | 5 283 990 | 17.13        |
| 11-12                                                              | 90 133  | 359   | 3.98          | 58.54     | 7 496 | 250.56     | 5 276 463 | 17.08        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 10 226 | 102.26       | 53.62     | 92 803 | 9.08      | 5 361 770 | 18.65        |
| 1-2                                                              | 89 774  | 2 319  | 25.83        | 55.65     | 88 406 | 38.12     | 5 268 967 | 17.04        |
| 2-3                                                              | 87 455  | 999    | 11.43        | 59.24     | 86 925 | 87.01     | 5 180 561 | 16.88        |
| 3-4                                                              | 86 456  | 614    | 7.15         | 58.92     | 86 121 | 133.73    | 5 093 636 | 16.97        |
| 4-5                                                              | 85 812  | 463    | 5.39         | 58.35     | 85 571 | 181.82    | 5 007 515 | 17.14        |
| 5-6                                                              | 85 319  | 382    | 4.47         | 57.67     | 85 158 | 222.93    | 4 921 944 | 17.34        |
| 6-7                                                              | 84 967  | 316    | 3.72         | 56.93     | 84 809 | 268.38    | 4 836 786 | 17.57        |
| 7-8                                                              | 84 631  | 262    | 3.09         | 56.14     | 84 520 | 322.60    | 4 751 977 | 17.81        |
| 8-9                                                              | 84 389  | 220    | 2.61         | 55.31     | 84 279 | 383.09    | 4 667 457 | 18.08        |
| 9-10                                                             | 84 169  | 190    | 2.26         | 54.45     | 84 074 | 442.49    | 4 583 178 | 18.37        |
| 10-11                                                            | 83 979  | 173    | 2.06         | 53.57     | 83 892 | 484.92    | 4 499 104 | 18.67        |
| 11-12                                                            | 83 806  | 166    | 1.98         | 52.68     | 83 723 | 504.36    | 4 415 212 | 18.98        |
| 12-13                                                            | 83 610  | 169    | 2.02         | 51.79     | 83 555 | 494.41    | 4 331 489 | 19.31        |
| 13-14                                                            | 83 471  | 181    | 2.16         | 50.89     | 83 380 | 460.66    | 4 247 934 | 19.65        |
| 14-15                                                            | 83 290  | 197    | 2.37         | 50.00     | 83 192 | 422.29    | 4 164 554 | 20.00        |
| 15-16                                                            | 83 093  | 220    | 2.65         | 49.12     | 82 983 | 377.20    | 4 081 362 | 20.36        |
| 16-17                                                            | 82 873  | 244    | 2.95         | 48.25     | 82 751 | 339.14    | 3 998 379 | 20.73        |
| 17-18                                                            | 82 629  | 269    | 3.25         | 47.39     | 82 495 | 306.67    | 3 915 628 | 21.10        |
| 18-19                                                            | 82 360  | 292    | 3.55         | 46.54     | 82 214 | 281.55    | 3 833 133 | 21.49        |
| 19-20                                                            | 82 068  | 318    | 3.87         | 45.71     | 81 909 | 257.58    | 3 750 919 | 21.88        |
| 20-21                                                            | 81 750  | 343    | 4.20         | 44.88     | 81 578 | 237.84    | 3 669 010 | 22.28        |
| 21-22                                                            | 81 407  | 365    | 4.48         | 44.07     | 81 224 | 222.53    | 3 587 432 | 22.69        |
| 22-23                                                            | 81 012  | 381    | 4.70         | 43.26     | 80 851 | 212.21    | 3 506 208 | 23.12        |
| 23-24                                                            | 80 661  | 392    | 4.86         | 42.47     | 80 465 | 205.27    | 3 425 357 | 23.55        |
| 24-25                                                            | 80 269  | 404    | 5.04         | 41.67     | 80 067 | 198.19    | 3 344 892 | 24.00        |
| 25-26                                                            | 79 865  | 417    | 5.22         | 40.88     | 79 656 | 191.02    | 3 264 825 | 24.46        |
| 26-27                                                            | 79 418  | 428    | 5.39         | 40.09     | 79 234 | 185.13    | 3 185 169 | 24.94        |
| 27-28                                                            | 79 020  | 438    | 5.54         | 39.31     | 78 801 | 179.91    | 3 105 935 | 25.44        |
| 28-29                                                            | 78 582  | 448    | 5.70         | 38.52     | 78 358 | 174.91    | 3 027 134 | 25.96        |
| 29-30                                                            | 78 134  | 458    | 5.86         | 37.74     | 77 905 | 170.10    | 2 948 776 | 26.50        |
| 30-31                                                            | 77 676  | 469    | 6.03         | 36.96     | 77 441 | 165.12    | 2 870 871 | 27.06        |
| 31-32                                                            | 77 207  | 480    | 6.23         | 36.18     | 76 967 | 160.35    | 2 793 430 | 27.64        |
| 32-33                                                            | 76 727  | 495    | 6.45         | 35.40     | 76 479 | 154.50    | 2 716 463 | 28.25        |
| 33-34                                                            | 76 232  | 509    | 6.68         | 34.63     | 75 977 | 149.27    | 2 639 984 | 28.88        |
| 34-35                                                            | 75 723  | 523    | 6.90         | 33.86     | 75 462 | 144.29    | 2 564 007 | 29.53        |
| 35-36                                                            | 75 200  | 536    | 7.13         | 33.09     | 74 932 | 139.80    | 2 488 545 | 30.22        |
| 36-37                                                            | 74 664  | 547    | 7.33         | 32.33     | 74 390 | 136.00    | 2 413 613 | 30.93        |
| 37-38                                                            | 74 117  | 556    | 7.50         | 31.56     | 73 839 | 132.80    | 2 339 223 | 31.69        |
| 38-39                                                            | 73 561  | 561    | 7.66         | 30.80     | 73 279 | 129.93    | 2 265 384 | 32.47        |
| 39-40                                                            | 72 997  | 572    | 7.84         | 30.03     | 72 711 | 127.12    | 2 192 105 | 33.30        |
| 40-41                                                            | 72 425  | 582    | 8.03         | 29.26     | 72 134 | 123.94    | 2 119 394 | 34.18        |
| 41-42                                                            | 71 843  | 594    | 8.28         | 28.50     | 71 516 | 120.45    | 2 047 260 | 35.09        |
| 42-43                                                            | 71 249  | 613    | 8.60         | 27.73     | 70 942 | 115.73    | 1 975 714 | 36.06        |
| 43-44                                                            | 70 636  | 635    | 8.99         | 26.97     | 70 318 | 110.74    | 1 904 772 | 37.08        |
| 44-45                                                            | 70 001  | 660    | 9.42         | 26.21     | 69 671 | 105.56    | 1 834 454 | 38.15        |



## ORIGINAL REGISTRATION STATES: 1910.

TABLE 12

REPORTED DEATHS IN 1909 (160,227), IN 1910 (170,233), AND IN 1911 (165,918).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000/L_x$                                                                                   |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 69 311 | 687   | 9.91         | 25.45     | 68 998 | 100.43    | 1 764 783 | 39.29        |
| 46-47                                                                      | 68 651 | 716   | 10.43        | 24.70     | 68 296 | 95.39     | 1 695 785 | 40.49        |
| 47-48                                                                      | 67 938 | 743   | 10.94        | 23.96     | 67 567 | 90.94     | 1 627 489 | 41.74        |
| 48-49                                                                      | 67 195 | 769   | 11.45        | 23.21     | 66 811 | 86.88     | 1 559 922 | 43.08        |
| 49-50                                                                      | 66 426 | 797   | 12.01        | 22.48     | 66 027 | 82.84     | 1 493 111 | 44.48        |
| 50-51                                                                      | 65 629 | 827   | 12.59        | 21.74     | 65 216 | 78.86     | 1 427 084 | 46.00        |
| 51-52                                                                      | 64 802 | 860   | 13.28        | 21.02     | 64 372 | 74.85     | 1 361 868 | 47.57        |
| 52-53                                                                      | 63 942 | 905   | 14.15        | 20.29     | 63 490 | 70.15     | 1 297 496 | 49.29        |
| 53-54                                                                      | 63 037 | 961   | 15.24        | 19.58     | 62 557 | 65.10     | 1 234 006 | 51.07        |
| 54-55                                                                      | 62 076 | 1 023 | 16.48        | 18.87     | 61 565 | 60.18     | 1 171 449 | 52.99        |
| 55-56                                                                      | 61 053 | 1 094 | 17.93        | 18.18     | 60 506 | 55.31     | 1 109 884 | 55.01        |
| 56-57                                                                      | 59 959 | 1 169 | 19.50        | 17.50     | 59 374 | 50.79     | 1 049 378 | 57.14        |
| 57-58                                                                      | 58 790 | 1 236 | 21.03        | 16.84     | 58 172 | 47.06     | 990 004   | 59.38        |
| 58-59                                                                      | 57 554 | 1 296 | 22.51        | 16.19     | 56 906 | 43.91     | 931 832   | 61.77        |
| 59-60                                                                      | 56 258 | 1 358 | 24.13        | 15.55     | 55 579 | 40.93     | 874 926   | 64.31        |
| 60-61                                                                      | 54 900 | 1 418 | 25.83        | 14.92     | 54 191 | 38.22     | 819 347   | 67.02        |
| 61-62                                                                      | 53 482 | 1 483 | 27.74        | 14.31     | 52 740 | 35.56     | 765 156   | 69.88        |
| 62-63                                                                      | 51 999 | 1 559 | 29.97        | 13.70     | 51 219 | 32.85     | 712 416   | 72.99        |
| 63-64                                                                      | 50 440 | 1 640 | 32.51        | 13.11     | 49 620 | 30.26     | 661 197   | 76.28        |
| 64-65                                                                      | 48 800 | 1 714 | 35.13        | 12.53     | 47 943 | 27.97     | 611 577   | 79.81        |
| 65-66                                                                      | 47 086 | 1 783 | 37.86        | 11.97     | 46 194 | 25.91     | 563 634   | 83.54        |
| 66-67                                                                      | 45 303 | 1 850 | 40.84        | 11.42     | 44 378 | 23.99     | 517 440   | 87.57        |
| 67-68                                                                      | 43 453 | 1 920 | 44.19        | 10.89     | 42 493 | 22.13     | 473 062   | 91.83        |
| 68-69                                                                      | 41 533 | 1 992 | 47.96        | 10.37     | 40 537 | 20.35     | 430 569   | 96.43        |
| 69-70                                                                      | 39 541 | 2 059 | 52.07        | 9.86      | 38 511 | 18.70     | 390 032   | 101.42       |
| 70-71                                                                      | 37 482 | 2 123 | 56.63        | 9.38      | 36 420 | 17.15     | 351 521   | 106.61       |
| 71-72                                                                      | 35 359 | 2 173 | 61.45        | 8.91      | 34 273 | 15.77     | 315 101   | 112.23       |
| 72-73                                                                      | 33 186 | 2 201 | 66.33        | 8.46      | 32 086 | 14.38     | 280 828   | 118.20       |
| 73-74                                                                      | 30 985 | 2 209 | 71.29        | 8.03      | 29 881 | 13.33     | 248 742   | 124.53       |
| 74-75                                                                      | 28 776 | 2 207 | 76.70        | 7.61      | 27 673 | 12.54     | 218 861   | 131.41       |
| 75-76                                                                      | 26 569 | 2 192 | 82.52        | 7.20      | 25 473 | 11.62     | 191 188   | 138.89       |
| 76-77                                                                      | 24 377 | 2 167 | 88.88        | 6.80      | 23 293 | 10.75     | 165 715   | 147.06       |
| 77-78                                                                      | 22 210 | 2 134 | 96.09        | 6.41      | 21 143 | 9.91      | 142 422   | 156.01       |
| 78-79                                                                      | 20 076 | 2 096 | 104.42       | 6.04      | 19 028 | 9.08      | 121 279   | 165.56       |
| 79-80                                                                      | 17 980 | 2 051 | 114.06       | 5.69      | 16 954 | 8.27      | 102 251   | 175.75       |
| 80-81                                                                      | 15 929 | 2 004 | 125.79       | 5.35      | 14 927 | 7.45      | 85 297    | 186.92       |
| 81-82                                                                      | 13 925 | 1 924 | 138.19       | 5.05      | 12 963 | 6.74      | 70 370    | 198.02       |
| 82-83                                                                      | 12 001 | 1 789 | 149.10       | 4.78      | 11 106 | 6.21      | 57 407    | 209.21       |
| 83-84                                                                      | 10 212 | 1 615 | 158.11       | 4.53      | 9 404  | 5.82      | 46 301    | 220.75       |
| 84-85                                                                      | 8 597  | 1 415 | 168.04       | 4.29      | 7 875  | 5.45      | 36 897    | 233.10       |
| 85-86                                                                      | 7 152  | 1 275 | 178.32       | 4.06      | 6 515  | 5.11      | 29 022    | 246.31       |
| 86-87                                                                      | 5 877  | 1 115 | 189.67       | 3.83      | 5 320  | 4.77      | 22 507    | 261.10       |
| 87-88                                                                      | 4 762  | 962   | 202.11       | 3.61      | 4 281  | 4.45      | 17 187    | 277.01       |
| 88-89                                                                      | 3 800  | 820   | 215.85       | 3.40      | 3 390  | 4.13      | 12 906    | 294.12       |
| 89-90                                                                      | 2 980  | 689   | 231.05       | 3.19      | 2 635  | 3.83      | 9 516     | 313.48       |
| 90-91                                                                      | 2 291  | 567   | 247.59       | 3.00      | 2 008  | 3.54      | 6 881     | 333.33       |
| 91-92                                                                      | 1 724  | 457   | 265.04       | 2.83      | 1 495  | 3.27      | 4 873     | 353.36       |
| 92-93                                                                      | 1 267  | 358   | 282.82       | 2.67      | 1 088  | 3.04      | 3 378     | 374.53       |
| 93-94                                                                      | 909    | 273   | 300.44       | 2.52      | 772    | 2.83      | 2 290     | 396.83       |
| 94-95                                                                      | 636    | 202   | 317.60       | 2.39      | 535    | 2.65      | 1 518     | 418.41       |
| 95-96                                                                      | 434    | 145   | 334.23       | 2.27      | 361    | 2.49      | 983       | 440.53       |
| 96-97                                                                      | 289    | 101   | 350.48       | 2.15      | 238    | 2.35      | 622       | 465.12       |
| 97-98                                                                      | 188    | 69    | 366.82       | 2.05      | 153    | 2.23      | 381       | 487.80       |
| 98-99                                                                      | 119    | 46    | 383.80       | 1.94      | 96     | 2.11      | 231       | 513.46       |
| 99-100                                                                     | 73     | 29    | 401.79       | 1.84      | 58     | 1.99      | 135       | 513.48       |
| 100-101                                                                    | 44     | 19    | 420.99       | 1.74      | 35     | 1.88      | 77        | 574.71       |
| 101-102                                                                    | 25     | 11    | 441.52       | 1.65      | 20     | 1.76      | 42        | 606.06       |
| 102-103                                                                    | 14     | 6     | 463.45       | 1.55      | 11     | 1.66      | 22        | 615.16       |
| 103-104                                                                    | 8      | 4     | 486.68       | 1.46      | 6      | 1.55      | 11        | 681.93       |
| 104-105                                                                    | 4      | 2     | 511.19       | 1.37      | 3      | 1.46      | 5         | 729.93       |
| 105-106                                                                    | 2      | 1     | 537.06       | 1.29      | 1      | 1.36      | 2         | 775.19       |
| 106-107                                                                    | 1      | 1     | 565.19       | 1.21      | 1      | 1.27      | 1         | 826.45       |

TABLE 13

## LIFE TABLE FOR NEGRO MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (189,365), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana. tables, are given on

| AGE INTERVAL.                                                      | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                                                    |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages.                         | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                   | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                                                       | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1                                                                  | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                       | 7                                     | 8                                                                  | 9                                                                                            |
| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                         |                                       |                                                                    |                                                                                              |
| Months.                                                            | 100 000                                    |                               | Monthly rate.                                                                | In years.                                                                        |                                                                                                                                                                                                         | Per month.                            |                                                                    | Annual rate.                                                                                 |
| 0-1                                                                | 100 000                                    | 7 824                         | 78.24                                                                        | 32.51                                                                            | 7 814                                                                                                                                                                                                   | 12.00                                 | 3 253 580                                                          | 30.73                                                                                        |
| 1-2                                                                | 92 176                                     | 2 552                         | 27.69                                                                        | 35.21                                                                            | 7 575                                                                                                                                                                                                   | 35.61                                 | 3 245 736                                                          | 28.40                                                                                        |
| 2-3                                                                | 89 621                                     | 2 328                         | 25.98                                                                        | 36.13                                                                            | 7 372                                                                                                                                                                                                   | 38.04                                 | 3 238 161                                                          | 27.68                                                                                        |
| 3-4                                                                | 87 296                                     | 2 137                         | 24.48                                                                        | 37.01                                                                            | 7 186                                                                                                                                                                                                   | 40.32                                 | 3 230 789                                                          | 27.02                                                                                        |
| 4-5                                                                | 85 139                                     | 1 916                         | 22.81                                                                        | 37.85                                                                            | 7 016                                                                                                                                                                                                   | 43.32                                 | 3 223 603                                                          | 26.42                                                                                        |
| 5-6                                                                | 83 213                                     | 1 752                         | 21.07                                                                        | 38.65                                                                            | 6 861                                                                                                                                                                                                   | 47.01                                 | 3 216 587                                                          | 25.87                                                                                        |
| 6-7                                                                | 81 461                                     | 1 567                         | 19.23                                                                        | 39.40                                                                            | 6 723                                                                                                                                                                                                   | 51.48                                 | 3 209 726                                                          | 25.38                                                                                        |
| 7-8                                                                | 79 894                                     | 1 374                         | 17.20                                                                        | 40.09                                                                            | 6 601                                                                                                                                                                                                   | 57.60                                 | 3 203 003                                                          | 24.91                                                                                        |
| 8-9                                                                | 78 520                                     | 1 194                         | 15.20                                                                        | 40.71                                                                            | 6 494                                                                                                                                                                                                   | 65.28                                 | 3 196 402                                                          | 24.56                                                                                        |
| 9-10                                                               | 77 326                                     | 1 019                         | 13.18                                                                        | 41.25                                                                            | 6 401                                                                                                                                                                                                   | 75.36                                 | 3 189 908                                                          | 24.24                                                                                        |
| 10-11                                                              | 76 307                                     | 871                           | 11.42                                                                        | 41.72                                                                            | 6 323                                                                                                                                                                                                   | 87.12                                 | 3 183 507                                                          | 23.97                                                                                        |
| 11-12                                                              | 75 436                                     | 762                           | 10.09                                                                        | 42.12                                                                            | 6 255                                                                                                                                                                                                   | 98.52                                 | 3 177 184                                                          | 23.74                                                                                        |
| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.   |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                         |                                       |                                                                    |                                                                                              |
| Years.                                                             | 100 000                                    |                               | Annual rate.                                                                 | In years.                                                                        |                                                                                                                                                                                                         | Per year.                             |                                                                    | Annual rate.                                                                                 |
| 0-1                                                                | 100 000                                    | 25 326                        | 253.26                                                                       | 32.51                                                                            | 82 651                                                                                                                                                                                                  | 3.26                                  | 3 253 580                                                          | 30.73                                                                                        |
| 1-2                                                                | 74 674                                     | 5 772                         | 77.31                                                                        | 42.46                                                                            | 71 268                                                                                                                                                                                                  | 12.35                                 | 3 170 929                                                          | 23.55                                                                                        |
| 2-3                                                                | 68 902                                     | 2 361                         | 34.26                                                                        | 44.99                                                                            | 67 650                                                                                                                                                                                                  | 28.65                                 | 3 099 661                                                          | 22.23                                                                                        |
| 3-4                                                                | 66 541                                     | 1 216                         | 18.28                                                                        | 45.77                                                                            | 65 908                                                                                                                                                                                                  | 51.20                                 | 3 032 011                                                          | 21.91                                                                                        |
| 4-5                                                                | 65 325                                     | 940                           | 14.39                                                                        | 45.41                                                                            | 64 836                                                                                                                                                                                                  | 68.97                                 | 2 966 103                                                          | 22.02                                                                                        |
| 5-6                                                                | 64 385                                     | 700                           | 10.87                                                                        | 45.06                                                                            | 64 035                                                                                                                                                                                                  | 91.48                                 | 2 901 267                                                          | 22.19                                                                                        |
| 6-7                                                                | 63 685                                     | 591                           | 9.29                                                                         | 44.55                                                                            | 63 389                                                                                                                                                                                                  | 107.26                                | 2 837 232                                                          | 22.15                                                                                        |
| 7-8                                                                | 63 094                                     | 509                           | 8.05                                                                         | 43.96                                                                            | 62 810                                                                                                                                                                                                  | 123.46                                | 2 773 813                                                          | 22.75                                                                                        |
| 8-9                                                                | 62 585                                     | 447                           | 7.15                                                                         | 43.32                                                                            | 62 362                                                                                                                                                                                                  | 139.51                                | 2 711 003                                                          | 23.08                                                                                        |
| 9-10                                                               | 62 138                                     | 408                           | 6.56                                                                         | 42.63                                                                            | 61 931                                                                                                                                                                                                  | 151.80                                | 2 648 611                                                          | 23.46                                                                                        |
| 10-11                                                              | 61 730                                     | 387                           | 6.28                                                                         | 41.90                                                                            | 61 536                                                                                                                                                                                                  | 159.01                                | 2 586 707                                                          | 23.87                                                                                        |
| 11-12                                                              | 61 343                                     | 386                           | 6.29                                                                         | 41.16                                                                            | 61 150                                                                                                                                                                                                  | 158.42                                | 2 525 171                                                          | 24.30                                                                                        |
| 12-13                                                              | 60 957                                     | 400                           | 6.55                                                                         | 40.42                                                                            | 60 757                                                                                                                                                                                                  | 151.89                                | 2 464 021                                                          | 24.74                                                                                        |
| 13-14                                                              | 60 557                                     | 426                           | 7.05                                                                         | 39.69                                                                            | 60 344                                                                                                                                                                                                  | 141.65                                | 2 403 264                                                          | 25.20                                                                                        |
| 14-15                                                              | 60 131                                     | 461                           | 7.71                                                                         | 38.96                                                                            | 59 899                                                                                                                                                                                                  | 129.09                                | 2 342 920                                                          | 25.67                                                                                        |
| 15-16                                                              | 59 667                                     | 508                           | 8.51                                                                         | 38.26                                                                            | 59 413                                                                                                                                                                                                  | 116.95                                | 2 283 021                                                          | 26.14                                                                                        |
| 16-17                                                              | 59 159                                     | 553                           | 9.36                                                                         | 37.59                                                                            | 58 883                                                                                                                                                                                                  | 106.48                                | 2 223 608                                                          | 26.60                                                                                        |
| 17-18                                                              | 58 606                                     | 595                           | 10.14                                                                        | 36.94                                                                            | 58 308                                                                                                                                                                                                  | 98.00                                 | 2 164 725                                                          | 27.07                                                                                        |
| 18-19                                                              | 58 011                                     | 626                           | 10.79                                                                        | 36.31                                                                            | 57 698                                                                                                                                                                                                  | 92.17                                 | 2 106 417                                                          | 27.54                                                                                        |
| 19-20                                                              | 57 385                                     | 652                           | 11.37                                                                        | 35.70                                                                            | 57 059                                                                                                                                                                                                  | 87.51                                 | 2 048 719                                                          | 28.01                                                                                        |
| 20-21                                                              | 56 733                                     | 675                           | 11.89                                                                        | 35.11                                                                            | 56 396                                                                                                                                                                                                  | 83.55                                 | 1 991 660                                                          | 28.48                                                                                        |
| 21-22                                                              | 56 058                                     | 687                           | 12.27                                                                        | 34.52                                                                            | 55 714                                                                                                                                                                                                  | 81.10                                 | 1 935 264                                                          | 28.97                                                                                        |
| 22-23                                                              | 55 371                                     | 691                           | 12.53                                                                        | 33.91                                                                            | 55 024                                                                                                                                                                                                  | 79.29                                 | 1 879 550                                                          | 29.46                                                                                        |
| 23-24                                                              | 54 677                                     | 696                           | 12.72                                                                        | 33.37                                                                            | 54 329                                                                                                                                                                                                  | 78.06                                 | 1 824 526                                                          | 29.97                                                                                        |
| 24-25                                                              | 53 981                                     | 696                           | 12.89                                                                        | 32.79                                                                            | 53 633                                                                                                                                                                                                  | 77.06                                 | 1 770 197                                                          | 30.50                                                                                        |
| 25-26                                                              | 53 285                                     | 696                           | 13.07                                                                        | 32.21                                                                            | 52 937                                                                                                                                                                                                  | 76.06                                 | 1 716 564                                                          | 31.05                                                                                        |
| 26-27                                                              | 52 589                                     | 693                           | 13.18                                                                        | 31.63                                                                            | 52 213                                                                                                                                                                                                  | 75.39                                 | 1 663 627                                                          | 31.62                                                                                        |
| 27-28                                                              | 51 896                                     | 686                           | 13.22                                                                        | 31.05                                                                            | 51 553                                                                                                                                                                                                  | 75.15                                 | 1 611 384                                                          | 32.21                                                                                        |
| 28-29                                                              | 51 210                                     | 676                           | 13.21                                                                        | 30.46                                                                            | 50 872                                                                                                                                                                                                  | 75.25                                 | 1 559 831                                                          | 32.83                                                                                        |
| 29-30                                                              | 50 534                                     | 667                           | 13.20                                                                        | 29.86                                                                            | 50 200                                                                                                                                                                                                  | 75.26                                 | 1 508 959                                                          | 33.49                                                                                        |
| 30-31                                                              | 49 867                                     | 657                           | 13.17                                                                        | 29.25                                                                            | 49 539                                                                                                                                                                                                  | 75.40                                 | 1 458 759                                                          | 34.19                                                                                        |
| 31-32                                                              | 49 210                                     | 652                           | 13.26                                                                        | 28.64                                                                            | 48 881                                                                                                                                                                                                  | 74.98                                 | 1 409 220                                                          | 34.92                                                                                        |
| 32-33                                                              | 48 558                                     | 659                           | 13.58                                                                        | 28.01                                                                            | 48 238                                                                                                                                                                                                  | 73.18                                 | 1 360 336                                                          | 35.70                                                                                        |
| 33-34                                                              | 47 899                                     | 673                           | 14.04                                                                        | 27.39                                                                            | 47 562                                                                                                                                                                                                  | 70.67                                 | 1 312 108                                                          | 36.51                                                                                        |
| 34-35                                                              | 47 226                                     | 685                           | 14.51                                                                        | 26.78                                                                            | 46 883                                                                                                                                                                                                  | 68.44                                 | 1 264 546                                                          | 37.34                                                                                        |
| 35-36                                                              | 46 511                                     | 701                           | 15.05                                                                        | 26.16                                                                            | 46 190                                                                                                                                                                                                  | 65.89                                 | 1 217 663                                                          | 38.23                                                                                        |
| 36-37                                                              | 45 810                                     | 711                           | 15.51                                                                        | 25.56                                                                            | 45 485                                                                                                                                                                                                  | 63.97                                 | 1 171 473                                                          | 39.12                                                                                        |
| 37-38                                                              | 45 129                                     | 714                           | 15.82                                                                        | 24.95                                                                            | 44 772                                                                                                                                                                                                  | 62.71                                 | 1 125 988                                                          | 40.08                                                                                        |
| 38-39                                                              | 44 415                                     | 713                           | 16.05                                                                        | 24.34                                                                            | 44 059                                                                                                                                                                                                  | 61.79                                 | 1 081 216                                                          | 41.08                                                                                        |
| 39-40                                                              | 43 702                                     | 713                           | 16.32                                                                        | 23.73                                                                            | 43 346                                                                                                                                                                                                  | 60.79                                 | 1 037 157                                                          | 42.11                                                                                        |
| 40-41                                                              | 42 989                                     | 713                           | 16.58                                                                        | 23.12                                                                            | 42 633                                                                                                                                                                                                  | 59.79                                 | 993 811                                                            | 43.25                                                                                        |
| 41-42                                                              | 42 276                                     | 720                           | 17.03                                                                        | 22.50                                                                            | 41 916                                                                                                                                                                                                  | 58.22                                 | 951 178                                                            | 44.44                                                                                        |
| 42-43                                                              | 41 556                                     | 741                           | 17.84                                                                        | 21.88                                                                            | 41 186                                                                                                                                                                                                  | 55.58                                 | 909 262                                                            | 45.70                                                                                        |
| 43-44                                                              | 40 815                                     | 774                           | 18.97                                                                        | 21.27                                                                            | 40 428                                                                                                                                                                                                  | 52.23                                 | 868 076                                                            | 47.01                                                                                        |
| 44-45                                                              | 40 041                                     | 811                           | 20.25                                                                        | 20.67                                                                            | 39 635                                                                                                                                                                                                  | 48.87                                 | 827 618                                                            | 48.38                                                                                        |

## ORIGINAL REGISTRATION STATES: 1901.

## TABLE 13

REPORTED DEATHS IN 1900 (4,972), IN 1901 (5,030), AND IN 1902 (4,986).

Michigan and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE<br>INTERVAL. | OF 100,000 MALES BORN<br>ALIVE:                     |                                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND. | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                           | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                                                |                                                            |                                                                               |
|------------------|-----------------------------------------------------|--------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------|
|                  |                                                     |                                                  |                                          |                                                                                               | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                                        | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS. | DEATH RATE<br>PER THOUSAND.                                                   |
|                  | Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval.         | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval.                                                                                                               | Including only<br>those in current<br>month or year<br>of age. | Population<br>per death in<br>age interval.                | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                               | $d_x$                                            | $1000q_x$                                | $e_x$                                                                                         | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                                      | $T_x$                                                      | $1000l_x/T_x$                                                                 |
| 1                | 2                                                   | 3                                                | 4                                        | 5                                                                                             | 6                                                                                                                                                                                                          | 7                                                              | 8                                                          | 9                                                                             |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |         |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|---------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |         | Annual rate. |
| 45-46                                                                      | 39 230 | 857   | 21.85        | 20.09     | 38 801 | 45.28     | 788 013 | 49.78        |
| 46-47                                                                      | 38 373 | 896   | 23.34        | 19.52     | 37 925 | 42.33     | 749 212 | 51.23        |
| 47-48                                                                      | 37 477 | 909   | 24.25        | 18.98     | 37 023 | 40.73     | 711 287 | 52.69        |
| 48-49                                                                      | 36 568 | 903   | 24.70        | 18.44     | 36 117 | 40.00     | 674 264 | 54.23        |
| 49-50                                                                      | 35 665 | 899   | 25.20        | 17.89     | 35 216 | 39.17     | 638 147 | 55.90        |
| 50-51                                                                      | 34 766 | 887   | 25.53        | 17.34     | 34 323 | 38.70     | 602 931 | 57.67        |
| 51-52                                                                      | 33 879 | 894   | 26.38        | 16.78     | 33 432 | 37.40     | 568 608 | 59.59        |
| 52-53                                                                      | 32 985 | 933   | 28.29        | 16.22     | 32 519 | 34.85     | 535 176 | 61.65        |
| 53-54                                                                      | 32 052 | 999   | 31.17        | 15.68     | 31 552 | 31.58     | 502 657 | 63.78        |
| 54-55                                                                      | 31 053 | 1 066 | 34.33        | 15.17     | 30 520 | 28.63     | 471 105 | 65.92        |
| 55-56                                                                      | 29 987 | 1 145 | 38.18        | 14.69     | 29 414 | 25.69     | 440 585 | 68.07        |
| 56-57                                                                      | 28 842 | 1 199 | 41.57        | 14.26     | 28 242 | 23.55     | 411 171 | 70.13        |
| 57-58                                                                      | 27 643 | 1 194 | 43.21        | 13.85     | 27 046 | 22.65     | 382 929 | 72.20        |
| 58-59                                                                      | 26 419 | 1 148 | 43.38        | 13.46     | 25 875 | 22.54     | 355 883 | 74.29        |
| 59-60                                                                      | 25 301 | 1 107 | 43.77        | 13.04     | 24 747 | 22.36     | 330 008 | 76.69        |
| 60-61                                                                      | 24 194 | 1 064 | 43.98        | 12.62     | 23 662 | 22.24     | 305 261 | 79.24        |
| 61-62                                                                      | 23 130 | 1 032 | 44.58        | 12.17     | 22 614 | 21.91     | 281 599 | 82.17        |
| 62-63                                                                      | 22 098 | 1 022 | 46.24        | 11.72     | 21 587 | 21.12     | 258 985 | 85.32        |
| 63-64                                                                      | 21 076 | 1 029 | 48.86        | 11.26     | 20 562 | 19.98     | 237 398 | 88.81        |
| 64-65                                                                      | 20 047 | 1 032 | 51.45        | 10.82     | 19 531 | 18.93     | 216 836 | 92.42        |
| 65-66                                                                      | 19 015 | 1 030 | 54.18        | 10.38     | 18 500 | 17.96     | 197 305 | 96.34        |
| 66-67                                                                      | 17 985 | 1 033 | 57.45        | 9.94      | 17 468 | 16.91     | 178 805 | 100.60       |
| 67-68                                                                      | 16 952 | 1 039 | 61.26        | 9.52      | 16 433 | 15.82     | 161 337 | 105.04       |
| 68-69                                                                      | 15 913 | 1 041 | 65.46        | 9.11      | 15 393 | 14.79     | 144 904 | 109.77       |
| 69-70                                                                      | 14 872 | 1 043 | 70.10        | 8.71      | 14 351 | 13.76     | 129 511 | 114.81       |
| 70-71                                                                      | 13 829 | 1 041 | 75.32        | 8.33      | 13 309 | 12.78     | 115 160 | 120.05       |
| 71-72                                                                      | 12 788 | 1 027 | 80.32        | 7.96      | 12 274 | 11.95     | 101 851 | 125.63       |
| 72-73                                                                      | 11 761 | 997   | 84.71        | 7.62      | 11 262 | 11.30     | 89 577  | 131.23       |
| 73-74                                                                      | 10 764 | 956   | 88.80        | 7.28      | 10 286 | 10.76     | 78 315  | 137.36       |
| 74-75                                                                      | 9 808  | 916   | 93.43        | 6.94      | 9 350  | 10.21     | 68 029  | 144.09       |
| 75-76                                                                      | 8 892  | 885   | 99.51        | 6.60      | 8 450  | 9.55      | 58 679  | 151.52       |
| 76-77                                                                      | 8 007  | 852   | 106.41       | 6.27      | 7 581  | 8.90      | 50 229  | 159.49       |
| 77-78                                                                      | 7 155  | 817   | 114.15       | 5.96      | 6 747  | 8.26      | 42 648  | 167.79       |
| 78-79                                                                      | 6 338  | 776   | 122.54       | 5.66      | 5 950  | 7.67      | 35 901  | 176.68       |
| 79-80                                                                      | 5 562  | 731   | 131.41       | 5.38      | 5 196  | 7.11      | 29 951  | 185.87       |
| 80-81                                                                      | 4 831  | 679   | 140.53       | 5.12      | 4 491  | 6.62      | 24 755  | 195.31       |
| 81-82                                                                      | 4 152  | 622   | 149.78       | 4.88      | 3 841  | 6.18      | 20 264  | 204.92       |
| 82-83                                                                      | 3 530  | 561   | 159.08       | 4.65      | 3 249  | 5.79      | 16 423  | 215.05       |
| 83-84                                                                      | 2 969  | 500   | 168.42       | 4.44      | 2 719  | 5.44      | 13 174  | 225.23       |
| 84-85                                                                      | 2 469  | 439   | 177.82       | 4.24      | 2 249  | 5.12      | 10 455  | 235.85       |
| 85-86                                                                      | 2 030  | 381   | 187.43       | 4.04      | 1 839  | 4.84      | 8 206   | 247.52       |
| 86-87                                                                      | 1 649  | 325   | 197.26       | 3.86      | 1 487  | 4.57      | 6 367   | 259.07       |
| 87-88                                                                      | 1 324  | 275   | 207.34       | 3.69      | 1 187  | 4.32      | 4 880   | 271.00       |
| 88-89                                                                      | 1 049  | 228   | 217.64       | 3.52      | 935    | 4.09      | 3 693   | 284.09       |
| 89-90                                                                      | 821    | 187   | 228.23       | 3.36      | 727    | 3.88      | 2 758   | 297.62       |
| 90-91                                                                      | 634    | 152   | 239.16       | 3.21      | 558    | 3.68      | 2 031   | 311.53       |
| 91-92                                                                      | 482    | 121   | 250.57       | 3.06      | 422    | 3.49      | 1 473   | 326.80       |
| 92-93                                                                      | 361    | 95    | 262.57       | 2.91      | 314    | 3.31      | 1 051   | 343.64       |
| 93-94                                                                      | 266    | 73    | 275.30       | 2.77      | 230    | 3.13      | 737     | 361.01       |
| 94-95                                                                      | 193    | 56    | 288.84       | 2.63      | 165    | 2.96      | 507     | 380.23       |
| 95-96                                                                      | 137    | 41    | 303.30       | 2.50      | 116    | 2.80      | 342     | 400.00       |
| 96-97                                                                      | 96     | 31    | 318.55       | 2.37      | 80     | 2.64      | 226     | 421.94       |
| 97-98                                                                      | 65     | 22    | 334.71       | 2.25      | 54     | 2.49      | 146     | 444.44       |
| 98-99                                                                      | 43     | 15    | 351.88       | 2.13      | 36     | 2.34      | 92      | 469.48       |
| 99-100                                                                     | 28     | 10    | 370.13       | 2.01      | 23     | 2.20      | 56      | 497.51       |
| 100-101                                                                    | 18     | 7     | 389.55       | 1.89      | 14     | 2.07      | 33      | 529.10       |
| 101-102                                                                    | 11     | 5     | 410.24       | 1.78      | 9      | 1.94      | 19      | 561.80       |
| 102-103                                                                    | 6      | 2     | 432.32       | 1.68      | 5      | 1.81      | 10      | 595.24       |
| 103-104                                                                    | 4      | 2     | 455.93       | 1.57      | 3      | 1.69      | 5       | 636.94       |
| 104-105                                                                    | 2      | 1     | 481.22       | 1.47      | 1      | 1.58      | 2       | 680.27       |
| 105-106                                                                    | 1      | 1     | 508.37       | 1.38      | 1      | 1.47      | 1       | 724.64       |

TABLE 14

## LIFE TABLE FOR NEGRO MALES IN THE

BASED ON THE ESTIMATED MEAN POPULATION FOR THE 10-YEAR PERIOD, 1901 TO 1910 (206,061), AND ON THE 1907 (5,903), IN 1908 (5,560), IN

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE INTERVAL.                              | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                  | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                    | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            | 100 000 | 8 116 | Monthly rate. | In years. | 7 826 | Per month. | 3 256 596 | Annual rate. |
| 0-1                                                                | 100 000 | 8 116 | 81.16         | 32.57     | 7 826 | 11.52      | 3 256 596 | 30.70        |
| 1-2                                                                | 91 881  | 2 277 | 24.78         | 35.36     | 7 562 | 39.84      | 3 248 770 | 28.28        |
| 2-3                                                                | 89 607  | 2 023 | 22.57         | 36.17     | 7 383 | 43.80      | 3 241 208 | 27.65        |
| 3-4                                                                | 87 584  | 1 846 | 21.08         | 36.92     | 7 222 | 46.92      | 3 233 825 | 27.09        |
| 4-5                                                                | 85 738  | 1 689 | 19.71         | 37.63     | 7 074 | 50.28      | 3 226 603 | 26.57        |
| 5-6                                                                | 84 049  | 1 549 | 18.42         | 38.31     | 6 940 | 53.76      | 3 219 529 | 26.10        |
| 6-7                                                                | 82 500  | 1 408 | 17.07         | 38.94     | 6 816 | 58.08      | 3 212 589 | 25.68        |
| 7-8                                                                | 81 092  | 1 271 | 15.67         | 39.53     | 6 705 | 63.36      | 3 205 773 | 25.30        |
| 8-9                                                                | 79 821  | 1 141 | 14.30         | 40.08     | 6 604 | 69.48      | 3 199 068 | 24.95        |
| 9-10                                                               | 78 680  | 1 024 | 13.01         | 40.68     | 6 514 | 76.32      | 3 192 464 | 24.64        |
| 10-11                                                              | 77 656  | 928   | 11.96         | 41.03     | 6 433 | 83.16      | 3 185 950 | 24.37        |
| 11-12                                                              | 76 728  | 869   | 11.32         | 41.44     | 6 358 | 87.84      | 3 179 517 | 24.13        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           | 100 000 | 24 141 | Annual rate. | In years. | 83 437 | Per year. | 3 256 596 | Annual rate. |
| 0-1                                                              | 100 000 | 24 141 | 241.41       | 32.57     | 83 437 | 3.46      | 3 256 596 | 30.70        |
| 1-2                                                              | 75 859  | 5 619  | 74.47        | 41.83     | 72 526 | 12.84     | 3 173 159 | 23.91        |
| 2-3                                                              | 70 210  | 2 356  | 33.55        | 44.16     | 68 961 | 29.27     | 3 100 633 | 22.64        |
| 3-4                                                              | 67 854  | 1 288  | 18.99        | 44.68     | 67 184 | 52.16     | 3 031 672 | 22.38        |
| 4-5                                                              | 66 566  | 850    | 12.76        | 44.53     | 66 124 | 77.79     | 2 964 488 | 22.46        |
| 5-6                                                              | 65 716  | 638    | 9.72         | 44.10     | 65 397 | 102.50    | 2 898 364 | 22.68        |
| 6-7                                                              | 65 078  | 544    | 8.35         | 43.53     | 64 806 | 119.13    | 2 832 967 | 22.97        |
| 7-8                                                              | 64 534  | 470    | 7.29         | 42.89     | 64 299 | 136.81    | 2 768 161 | 23.32        |
| 8-9                                                              | 64 064  | 418    | 6.52         | 42.21     | 63 855 | 152.76    | 2 703 862 | 23.69        |
| 9-10                                                             | 63 646  | 385    | 6.05         | 41.48     | 63 454 | 164.82    | 2 640 007 | 24.11        |
| 10-11                                                            | 63 261  | 370    | 5.85         | 40.73     | 63 076 | 170.48    | 2 576 553 | 24.55        |
| 11-12                                                            | 62 891  | 372    | 5.92         | 39.97     | 62 705 | 168.56    | 2 513 477 | 25.02        |
| 12-13                                                            | 62 519  | 390    | 6.24         | 39.20     | 62 324 | 159.81    | 2 450 772 | 25.51        |
| 13-14                                                            | 62 129  | 422    | 6.79         | 38.44     | 61 918 | 146.73    | 2 388 448 | 26.01        |
| 14-15                                                            | 61 707  | 462    | 7.49         | 37.70     | 61 476 | 133.06    | 2 326 530 | 26.53        |
| 15-16                                                            | 61 245  | 509    | 8.31         | 36.98     | 60 991 | 119.83    | 2 265 054 | 27.04        |
| 16-17                                                            | 60 736  | 561    | 9.25         | 36.29     | 60 455 | 107.76    | 2 204 063 | 27.56        |
| 17-18                                                            | 60 175  | 616    | 10.23        | 35.62     | 59 867 | 97.19     | 2 143 608 | 28.07        |
| 18-19                                                            | 59 559  | 661    | 11.10        | 34.99     | 59 228 | 89.60     | 2 083 741 | 28.58        |
| 19-20                                                            | 58 898  | 700    | 11.88        | 34.37     | 58 548 | 83.64     | 2 024 513 | 29.10        |
| 20-21                                                            | 58 198  | 734    | 12.61        | 33.78     | 57 831 | 78.79     | 1 965 965 | 29.60        |
| 21-22                                                            | 57 461  | 752    | 13.09        | 33.21     | 57 088 | 75.91     | 1 908 134 | 30.11        |
| 22-23                                                            | 56 712  | 754    | 13.29        | 32.64     | 56 335 | 74.71     | 1 851 046 | 30.64        |
| 23-24                                                            | 55 958  | 746    | 13.31        | 32.07     | 55 585 | 74.51     | 1 794 711 | 31.18        |
| 24-25                                                            | 55 212  | 740    | 13.41        | 31.50     | 54 812 | 74.11     | 1 739 126 | 31.75        |
| 25-26                                                            | 54 472  | 733    | 13.46        | 30.92     | 54 105 | 73.81     | 1 684 284 | 32.34        |
| 26-27                                                            | 53 739  | 729    | 13.56        | 30.34     | 53 374 | 73.22     | 1 630 179 | 32.96        |
| 27-28                                                            | 53 010  | 729    | 13.76        | 29.75     | 52 645 | 72.22     | 1 576 805 | 33.61        |
| 28-29                                                            | 52 281  | 735    | 14.06        | 29.15     | 51 913 | 70.63     | 1 524 160 | 34.31        |
| 29-30                                                            | 51 546  | 741    | 14.37        | 28.56     | 51 175 | 69.06     | 1 472 247 | 35.01        |
| 30-31                                                            | 50 805  | 746    | 14.69        | 27.97     | 50 432 | 67.60     | 1 421 072 | 35.75        |
| 31-32                                                            | 50 059  | 757    | 15.12        | 27.38     | 49 681 | 65.63     | 1 370 640 | 36.52        |
| 32-33                                                            | 49 302  | 772    | 15.66        | 26.79     | 48 916 | 63.36     | 1 320 959 | 37.33        |
| 33-34                                                            | 48 530  | 788    | 16.24        | 26.21     | 48 136 | 61.09     | 1 272 043 | 38.15        |
| 34-35                                                            | 47 742  | 804    | 16.84        | 25.64     | 47 340 | 58.88     | 1 223 907 | 39.00        |
| 35-36                                                            | 46 938  | 820    | 17.49        | 25.07     | 46 528 | 56.74     | 1 176 567 | 39.89        |
| 36-37                                                            | 46 118  | 830    | 17.99        | 24.50     | 45 703 | 55.06     | 1 130 039 | 40.82        |
| 37-38                                                            | 45 288  | 827    | 18.25        | 23.94     | 44 875 | 54.26     | 1 084 336 | 41.77        |
| 38-39                                                            | 44 461  | 817    | 18.38        | 23.38     | 44 053 | 53.92     | 1 039 461 | 42.77        |
| 39-40                                                            | 43 644  | 808    | 18.53        | 22.81     | 43 240 | 53.51     | 995 408   | 43.84        |
| 40-41                                                            | 42 836  | 799    | 18.66        | 22.23     | 42 436 | 53.11     | 952 168   | 44.98        |
| 41-42                                                            | 42 037  | 798    | 18.98        | 21.64     | 41 638 | 52.18     | 909 732   | 46.21        |
| 42-43                                                            | 41 239  | 811    | 19.66        | 21.05     | 40 833 | 50.35     | 868 094   | 47.51        |
| 43-44                                                            | 40 428  | 837    | 20.69        | 20.46     | 40 010 | 47.80     | 827 261   | 48.88        |
| 44-45                                                            | 39 591  | 865    | 21.86        | 19.88     | 39 159 | 45.27     | 787 251   | 50.30        |

## ORIGINAL REGISTRATION STATES: 1901 TO 1910.

TABLE 14

REPORTED DEATHS IN 1901 (5,030), IN 1902 (4,986), IN 1903 (5,231), IN 1904 (5,729), IN 1905 (5,700), IN 1906 (5,734), IN 1909 (5,531), AND IN 1910 (6,052).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                   | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                       | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |         |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|---------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |         | Annual rate. |
| 45-46                                                                      | 38 726 | 902   | 23.30        | 19.32     | 38 275 | 42.43     | 748 092 | 51.76        |
| 46-47                                                                      | 37 824 | 937   | 24.77        | 18.77     | 37 355 | 39.87     | 709 817 | 53.28        |
| 47-48                                                                      | 36 887 | 955   | 25.88        | 18.23     | 36 410 | 38.13     | 672 462 | 54.85        |
| 48-49                                                                      | 35 932 | 957   | 26.64        | 17.70     | 35 454 | 37.05     | 636 052 | 56.50        |
| 49-50                                                                      | 34 975 | 959   | 27.44        | 17.17     | 34 495 | 35.97     | 600 598 | 58.24        |
| 50-51                                                                      | 34 016 | 958   | 28.15        | 16.64     | 33 537 | 35.01     | 566 103 | 60.10        |
| 51-52                                                                      | 33 058 | 961   | 29.08        | 16.11     | 32 577 | 33.90     | 532 566 | 62.07        |
| 52-53                                                                      | 32 097 | 981   | 30.57        | 15.58     | 31 606 | 32.22     | 499 989 | 64.18        |
| 53-54                                                                      | 31 116 | 1 017 | 32.66        | 15.05     | 30 607 | 30.10     | 468 383 | 66.45        |
| 54-55                                                                      | 30 099 | 1 054 | 35.02        | 14.54     | 29 572 | 28.06     | 437 776 | 68.78        |
| 55-56                                                                      | 29 045 | 1 099 | 37.86        | 14.05     | 28 495 | 25.93     | 408 204 | 71.17        |
| 56-57                                                                      | 27 946 | 1 141 | 40.83        | 13.59     | 27 375 | 23.99     | 379 709 | 73.58        |
| 57-58                                                                      | 26 805 | 1 159 | 43.23        | 13.14     | 26 225 | 22.63     | 352 334 | 76.10        |
| 58-59                                                                      | 25 616 | 1 156 | 45.06        | 12.72     | 25 068 | 21.69     | 326 109 | 78.62        |
| 59-60                                                                      | 24 490 | 1 152 | 47.07        | 12.29     | 23 914 | 20.76     | 301 041 | 81.37        |
| 60-61                                                                      | 23 338 | 1 144 | 49.02        | 11.87     | 22 766 | 19.90     | 277 127 | 84.25        |
| 61-62                                                                      | 22 194 | 1 140 | 51.37        | 11.46     | 21 624 | 18.97     | 254 361 | 87.26        |
| 62-63                                                                      | 21 054 | 1 150 | 54.62        | 11.05     | 20 479 | 17.81     | 232 737 | 90.50        |
| 63-64                                                                      | 19 904 | 1 167 | 58.63        | 10.66     | 19 320 | 16.56     | 212 258 | 93.81        |
| 64-65                                                                      | 18 737 | 1 176 | 62.76        | 10.30     | 18 149 | 15.43     | 192 938 | 97.09        |
| 65-66                                                                      | 17 561 | 1 157 | 65.88        | 9.95      | 16 982 | 14.68     | 174 789 | 100.50       |
| 66-67                                                                      | 16 404 | 1 125 | 68.58        | 9.62      | 15 811 | 14.08     | 157 807 | 103.95       |
| 67-68                                                                      | 15 279 | 1 083 | 70.85        | 9.29      | 14 738 | 13.61     | 141 966 | 107.64       |
| 68-69                                                                      | 14 196 | 1 031 | 72.90        | 8.96      | 13 679 | 13.23     | 127 228 | 111.61       |
| 69-70                                                                      | 13 162 | 989   | 75.08        | 8.63      | 12 667 | 12.81     | 113 549 | 115.87       |
| 70-71                                                                      | 12 173 | 947   | 77.84        | 8.29      | 11 700 | 12.35     | 100 882 | 120.63       |
| 71-72                                                                      | 11 226 | 915   | 81.50        | 7.94      | 10 768 | 11.77     | 89 182  | 125.94       |
| 72-73                                                                      | 10 311 | 889   | 86.24        | 7.60      | 9 866  | 11.10     | 78 414  | 131.58       |
| 73-74                                                                      | 9 422  | 867   | 91.98        | 7.28      | 8 988  | 10.37     | 68 548  | 137.36       |
| 74-75                                                                      | 8 555  | 842   | 98.42        | 6.96      | 8 134  | 9.66      | 59 560  | 143.68       |
| 75-76                                                                      | 7 713  | 811   | 105.18       | 6.67      | 7 307  | 9.01      | 51 426  | 149.93       |
| 76-77                                                                      | 6 902  | 772   | 111.89       | 6.39      | 6 516  | 8.44      | 44 119  | 156.49       |
| 77-78                                                                      | 6 130  | 726   | 118.32       | 6.13      | 5 767  | 7.94      | 37 603  | 163.13       |
| 78-79                                                                      | 5 404  | 672   | 124.36       | 5.89      | 5 068  | 7.54      | 31 836  | 169.78       |
| 79-80                                                                      | 4 732  | 615   | 130.11       | 5.66      | 4 424  | 7.19      | 26 768  | 176.68       |
| 80-81                                                                      | 4 117  | 559   | 135.72       | 5.43      | 3 837  | 6.87      | 22 344  | 184.16       |
| 81-82                                                                      | 3 558  | 503   | 141.43       | 5.20      | 3 306  | 6.37      | 18 507  | 192.31       |
| 82-83                                                                      | 3 055  | 451   | 147.44       | 4.98      | 2 829  | 6.28      | 15 201  | 200.80       |
| 83-84                                                                      | 2 604  | 401   | 153.95       | 4.75      | 2 404  | 6.00      | 12 372  | 210.53       |
| 84-85                                                                      | 2 203  | 355   | 161.14       | 4.52      | 2 026  | 5.71      | 9 968   | 221.24       |
| 85-86                                                                      | 1 848  | 312   | 169.23       | 4.30      | 1 692  | 5.41      | 7 942   | 232.56       |
| 86-87                                                                      | 1 536  | 274   | 178.40       | 4.07      | 1 399  | 5.11      | 6 250   | 245.70       |
| 87-88                                                                      | 1 262  | 239   | 188.84       | 3.85      | 1 142  | 4.80      | 4 851   | 259.74       |
| 88-89                                                                      | 1 023  | 205   | 200.67       | 3.62      | 921    | 4.48      | 3 709   | 276.24       |
| 89-90                                                                      | 818    | 175   | 213.97       | 3.41      | 730    | 4.17      | 2 788   | 293.26       |
| 90-91                                                                      | 643    | 147   | 228.69       | 3.20      | 569    | 3.87      | 2 058   | 312.50       |
| 91-92                                                                      | 496    | 121   | 244.71       | 3.00      | 435    | 3.59      | 1 489   | 333.33       |
| 92-93                                                                      | 375    | 99    | 261.92       | 2.81      | 326    | 3.32      | 1 054   | 355.87       |
| 93-94                                                                      | 276    | 77    | 280.22       | 2.63      | 238    | 3.07      | 728     | 380.23       |
| 94-95                                                                      | 199    | 60    | 299.59       | 2.46      | 169    | 2.84      | 490     | 406.50       |
| 95-96                                                                      | 139    | 44    | 320.05       | 2.30      | 117    | 2.62      | 321     | 431.78       |
| 96-97                                                                      | 95     | 33    | 341.66       | 2.15      | 79     | 2.43      | 204     | 465.12       |
| 97-98                                                                      | 62     | 22    | 364.52       | 2.01      | 51     | 2.24      | 125     | 497.51       |
| 98-99                                                                      | 40     | 16    | 388.71       | 1.87      | 32     | 2.07      | 74      | 534.76       |
| 99-100                                                                     | 24     | 10    | 414.27       | 1.74      | 19     | 1.91      | 42      | 574.71       |
| 100-101                                                                    | 14     | 6     | 441.24       | 1.62      | 11     | 1.77      | 23      | 617.28       |
| 101-102                                                                    | 8      | 4     | 469.67       | 1.51      | 6      | 1.63      | 12      | 662.25       |
| 102-103                                                                    | 4      | 2     | 499.60       | 1.40      | 3      | 1.50      | 6       | 714.29       |
| 103-104                                                                    | 2      | 1     | 531.06       | 1.30      | 2      | 1.38      | 3       | 769.23       |
| 104-105                                                                    | 1      | 1     | 561.06       | 1.20      | 1      | 1.27      | 1       | 833.33       |

TABLE 15

## LIFE TABLE FOR NEGRO MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (223,884), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE INTERVAL. | OF 100,000 MALES BORN ALIVE:               |                                            | RATE OF MORTALITY PER THOUSAND. | COMPLETE EXPECTATION OF LIFE.                                                | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                                       |                                                                    |                                                                                              |
|---------------|--------------------------------------------|--------------------------------------------|---------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|               |                                            |                                            |                                 |                                                                              | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
|               | Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval.   | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval.                                                                                                                        | Including only those in current month or year of age. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$  | $l_x$                                      | $d_x$                                      | $1000q_x$                       | $e_x$                                                                        | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1             | 2                                          | 3                                          | 4                               | 5                                                                            | 6                                                                                                                                                                                                       | 7                                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            |         |       | Monthly rate. | In years. |       | Per month. |           | Annual rate. |
| 0-1                                                                | 100 000 | 7 370 | 73.70         | 34.05     | 7 873 | 12.84      | 3 405 206 | 29.37        |
| 1-2                                                                | 92 630  | 1 977 | 21.35         | 36.68     | 7 637 | 16.32      | 3 397 333 | 27.26        |
| 2-3                                                                | 90 653  | 1 831 | 20.19         | 37.39     | 7 478 | 18.96      | 3 389 696 | 26.75        |
| 3-4                                                                | 88 822  | 1 695 | 19.09         | 38.08     | 7 331 | 21.96      | 3 382 218 | 26.26        |
| 4-5                                                                | 87 127  | 1 561 | 17.91         | 38.71     | 7 196 | 25.32      | 3 374 887 | 25.81        |
| 5-6                                                                | 85 566  | 1 425 | 16.66         | 39.36     | 7 071 | 29.52      | 3 367 691 | 25.41        |
| 6-7                                                                | 84 141  | 1 290 | 15.33         | 39.94     | 6 958 | 34.68      | 3 360 620 | 25.04        |
| 7-8                                                                | 82 851  | 1 153 | 13.93         | 40.48     | 6 856 | 41.40      | 3 353 662 | 24.70        |
| 8-9                                                                | 81 698  | 1 037 | 12.69         | 40.97     | 6 765 | 48.24      | 3 346 806 | 24.41        |
| 9-10                                                               | 80 661  | 937   | 11.62         | 41.41     | 6 683 | 55.36      | 3 340 011 | 24.15        |
| 10-11                                                              | 79 724  | 857   | 10.75         | 41.81     | 6 608 | 62.52      | 3 333 358 | 23.92        |
| 11-12                                                              | 78 867  | 802   | 10.16         | 42.18     | 6 539 | 70.80      | 3 326 750 | 23.71        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 21 935 | 219.35       | 34.05     | 84 995 | 3.87      | 3 405 206 | 29.37        |
| 1-2                                                              | 78 063  | 5 216  | 66.82        | 42.53     | 74 988 | 14.38     | 3 320 211 | 23.51        |
| 2-3                                                              | 72 819  | 2 311  | 32.11        | 44.55     | 71 608 | 30.59     | 3 245 223 | 22.45        |
| 3-4                                                              | 70 508  | 1 197  | 16.97        | 45.01     | 69 885 | 58.38     | 3 173 615 | 22.22        |
| 4-5                                                              | 69 311  | 722    | 10.42        | 44.78     | 68 936 | 95.48     | 3 103 730 | 22.33        |
| 5-6                                                              | 68 589  | 587    | 8.56         | 44.25     | 68 295 | 116.35    | 3 034 794 | 22.60        |
| 6-7                                                              | 68 002  | 492    | 7.22         | 43.62     | 67 756 | 137.72    | 2 966 499 | 22.93        |
| 7-8                                                              | 67 510  | 420    | 6.22         | 42.94     | 67 300 | 160.24    | 2 898 743 | 23.29        |
| 8-9                                                              | 67 090  | 371    | 5.53         | 42.20     | 66 905 | 180.34    | 2 831 443 | 23.70        |
| 9-10                                                             | 66 719  | 342    | 5.14         | 41.44     | 66 548 | 191.58    | 2 764 538 | 24.13        |
| 10-11                                                            | 66 377  | 334    | 5.02         | 40.65     | 66 210 | 198.23    | 2 697 990 | 24.60        |
| 11-12                                                            | 66 043  | 312    | 5.18         | 39.85     | 65 872 | 192.61    | 2 631 780 | 25.09        |
| 12-13                                                            | 65 701  | 366    | 5.58         | 39.05     | 65 518 | 179.01    | 2 565 908 | 25.61        |
| 13-14                                                            | 65 335  | 405    | 6.19         | 38.27     | 65 133 | 160.82    | 2 500 390 | 26.13        |
| 14-15                                                            | 64 930  | 452    | 6.97         | 37.51     | 64 701 | 143.15    | 2 435 257 | 26.66        |
| 15-16                                                            | 64 478  | 508    | 7.87         | 36.77     | 64 224 | 126.43    | 2 370 553 | 27.20        |
| 16-17                                                            | 63 970  | 565    | 8.84         | 36.05     | 63 687 | 112.72    | 2 306 329 | 27.71        |
| 17-18                                                            | 63 405  | 619    | 9.75         | 35.37     | 63 095 | 101.93    | 2 242 642 | 28.27        |
| 18-19                                                            | 62 786  | 661    | 10.53        | 34.71     | 62 456 | 94.49     | 2 179 547 | 28.81        |
| 19-20                                                            | 62 125  | 699    | 11.26        | 34.08     | 61 775 | 88.38     | 2 117 091 | 29.34        |
| 20-21                                                            | 61 426  | 735    | 11.96        | 33.46     | 61 059 | 83.07     | 2 055 316 | 29.89        |
| 21-22                                                            | 60 691  | 751    | 12.39        | 32.86     | 60 315 | 80.31     | 1 994 257 | 30.43        |
| 22-23                                                            | 59 910  | 748    | 12.47        | 32.26     | 59 566 | 79.63     | 1 933 942 | 31.00        |
| 23-24                                                            | 59 192  | 731    | 12.39        | 31.67     | 58 825 | 80.14     | 1 874 376 | 31.58        |
| 24-25                                                            | 58 458  | 722    | 12.35        | 31.06     | 58 097 | 80.47     | 1 815 551 | 32.20        |
| 25-26                                                            | 57 736  | 709    | 12.28        | 30.44     | 57 382 | 80.93     | 1 757 454 | 32.85        |
| 26-27                                                            | 57 027  | 706    | 12.40        | 29.81     | 56 674 | 80.27     | 1 700 072 | 33.55        |
| 27-28                                                            | 56 321  | 722    | 12.82        | 29.18     | 55 960 | 77.51     | 1 643 398 | 34.27        |
| 28-29                                                            | 55 599  | 750    | 13.48        | 28.55     | 55 234 | 73.63     | 1 587 438 | 35.03        |
| 29-30                                                            | 54 819  | 776    | 14.16        | 27.94     | 54 461 | 70.18     | 1 532 214 | 35.79        |
| 30-31                                                            | 54 073  | 809    | 14.96        | 27.33     | 53 668 | 66.34     | 1 477 753 | 36.59        |
| 31-32                                                            | 53 261  | 837    | 15.71        | 26.74     | 52 845 | 63.14     | 1 424 085 | 37.40        |
| 32-33                                                            | 52 427  | 850    | 16.22        | 26.16     | 52 002 | 61.18     | 1 371 240 | 38.23        |
| 33-34                                                            | 51 577  | 854    | 16.55        | 25.58     | 51 150 | 59.89     | 1 319 238 | 39.09        |
| 34-35                                                            | 50 723  | 858    | 16.92        | 25.00     | 50 294 | 58.62     | 1 268 088 | 40.00        |
| 35-36                                                            | 49 865  | 862    | 17.28        | 24.42     | 49 434 | 57.35     | 1 217 794 | 40.95        |
| 36-37                                                            | 49 003  | 868    | 17.73        | 23.84     | 48 569 | 55.96     | 1 168 360 | 41.95        |
| 37-38                                                            | 48 133  | 885    | 18.38        | 23.26     | 47 692 | 53.89     | 1 119 791 | 42.99        |
| 38-39                                                            | 47 250  | 907    | 19.19        | 22.69     | 46 797 | 51.60     | 1 072 099 | 44.07        |
| 39-40                                                            | 46 343  | 929    | 20.05        | 22.12     | 45 878 | 49.38     | 1 025 302 | 45.21        |
| 40-41                                                            | 45 414  | 955    | 21.03        | 21.57     | 44 936 | 47.05     | 979 424   | 46.36        |
| 41-42                                                            | 44 459  | 973    | 21.89        | 21.02     | 43 972 | 45.19     | 934 488   | 47.57        |
| 42-43                                                            | 43 486  | 977    | 22.47        | 20.48     | 42 997 | 44.01     | 890 516   | 48.83        |
| 43-44                                                            | 42 509  | 973    | 22.89        | 19.94     | 42 022 | 43.19     | 847 519   | 50.15        |
| 44-45                                                            | 41 536  | 973    | 23.42        | 19.39     | 41 049 | 42.19     | 805 497   | 51.57        |



## ORIGINAL REGISTRATION STATES: 1910.

## TABLE 15

REPORTED DEATHS IN 1909 (5,531), IN 1910 (6,052), AND IN 1911 (5,888).

Michigan, and the District of Columbia An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE<br>INTERVAL. | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                  |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
|                  | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |         |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|---------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |         | Annual rate. |
| 45-46                                                                      | 40 563 | 973   | 23.99        | 18.85     | 40 076 | 41.19     | 764 448 | 53.05        |
| 46-47                                                                      | 39 590 | 988   | 24.96        | 18.30     | 39 096 | 39.57     | 724 372 | 54.04        |
| 47-48                                                                      | 38 602 | 1 023 | 26.49        | 17.75     | 38 090 | 37.23     | 685 276 | 56.34        |
| 48-49                                                                      | 37 579 | 1 061 | 28.24        | 17.22     | 37 048 | 34.92     | 647 186 | 58.07        |
| 49-50                                                                      | 36 518 | 1 091 | 29.86        | 16.71     | 35 972 | 32.97     | 610 138 | 59.84        |
| 50-51                                                                      | 35 427 | 1 113 | 31.42        | 16.21     | 34 871 | 31.33     | 574 166 | 61.69        |
| 51-52                                                                      | 34 314 | 1 126 | 32.81        | 15.72     | 33 751 | 29.97     | 539 295 | 63.61        |
| 52-53                                                                      | 33 188 | 1 133 | 34.16        | 15.23     | 32 622 | 28.79     | 505 544 | 65.66        |
| 53-54                                                                      | 32 055 | 1 144 | 35.68        | 14.75     | 31 483 | 27.52     | 472 922 | 67.80        |
| 54-55                                                                      | 30 911 | 1 157 | 37.43        | 14.28     | 30 333 | 26.22     | 441 439 | 70.03        |
| 55-56                                                                      | 29 754 | 1 175 | 39.50        | 13.82     | 29 167 | 24.82     | 411 106 | 72.36        |
| 56-57                                                                      | 28 579 | 1 196 | 41.85        | 13.36     | 27 981 | 23.40     | 381 939 | 74.85        |
| 57-58                                                                      | 27 383 | 1 210 | 44.17        | 12.93     | 26 778 | 22.13     | 353 958 | 77.34        |
| 58-59                                                                      | 26 173 | 1 211 | 46.30        | 12.50     | 25 567 | 21.11     | 327 180 | 80.00        |
| 59-60                                                                      | 24 962 | 1 212 | 48.53        | 12.08     | 24 356 | 20.10     | 301 613 | 82.78        |
| 60-61                                                                      | 23 750 | 1 206 | 50.79        | 11.67     | 23 147 | 19.19     | 277 257 | 85.69        |
| 61-62                                                                      | 22 544 | 1 198 | 53.14        | 11.27     | 21 945 | 18.32     | 254 110 | 88.73        |
| 62-63                                                                      | 21 346 | 1 190 | 55.76        | 10.88     | 20 751 | 17.44     | 232 165 | 91.91        |
| 63-64                                                                      | 20 156 | 1 182 | 58.65        | 10.49     | 19 565 | 16.55     | 211 414 | 95.33        |
| 64-65                                                                      | 18 974 | 1 168 | 61.62        | 10.11     | 18 390 | 15.74     | 191 819 | 98.91        |
| 65-66                                                                      | 17 806 | 1 145 | 64.33        | 9.74      | 17 234 | 15.05     | 173 459 | 102.67       |
| 66-67                                                                      | 16 661 | 1 123 | 67.40        | 9.38      | 16 099 | 14.34     | 156 225 | 106.61       |
| 67-68                                                                      | 15 538 | 1 102 | 70.93        | 9.02      | 14 987 | 13.60     | 140 126 | 110.86       |
| 68-69                                                                      | 14 436 | 1 082 | 74.96        | 8.67      | 13 895 | 12.84     | 125 139 | 115.34       |
| 69-70                                                                      | 13 351 | 1 059 | 79.27        | 8.33      | 12 824 | 12.11     | 111 244 | 120.05       |
| 70-71                                                                      | 12 295 | 1 032 | 83.98        | 8.00      | 11 779 | 11.41     | 98 420  | 125.00       |
| 71-72                                                                      | 11 263 | 1 002 | 88.92        | 7.69      | 10 762 | 10.74     | 86 611  | 130.04       |
| 72-73                                                                      | 10 261 | 961   | 93.94        | 7.39      | 9 779  | 10.14     | 75 879  | 135.32       |
| 73-74                                                                      | 9 297  | 922   | 99.17        | 7.11      | 8 836  | 9.58      | 66 100  | 140.65       |
| 74-75                                                                      | 8 375  | 881   | 105.27       | 6.84      | 7 934  | 9.01      | 57 264  | 146.20       |
| 75-76                                                                      | 7 494  | 846   | 112.77       | 6.58      | 7 071  | 8.36      | 49 330  | 151.98       |
| 76-77                                                                      | 6 648  | 797   | 119.97       | 6.36      | 6 250  | 7.84      | 42 259  | 157.23       |
| 77-78                                                                      | 5 851  | 730   | 124.82       | 6.15      | 5 486  | 7.52      | 36 009  | 162.60       |
| 78-79                                                                      | 5 121  | 651   | 127.14       | 5.96      | 4 795  | 7.37      | 30 523  | 167.79       |
| 79-80                                                                      | 4 470  | 576   | 128.82       | 5.76      | 4 182  | 7.26      | 25 728  | 173.61       |
| 80-81                                                                      | 3 894  | 511   | 131.27       | 5.53      | 3 638  | 7.12      | 21 546  | 180.83       |
| 81-82                                                                      | 3 383  | 466   | 137.57       | 5.29      | 3 150  | 6.77      | 17 908  | 189.04       |
| 82-83                                                                      | 2 917  | 426   | 146.08       | 5.06      | 2 704  | 6.35      | 14 758  | 197.63       |
| 83-84                                                                      | 2 491  | 390   | 156.61       | 4.84      | 2 296  | 5.89      | 12 054  | 206.61       |
| 84-85                                                                      | 2 101  | 354   | 168.31       | 4.61      | 1 924  | 5.44      | 9 758   | 215.32       |
| 85-86                                                                      | 1 747  | 314   | 179.82       | 4.48      | 1 590  | 5.06      | 7 834   | 223.21       |
| 86-87                                                                      | 1 433  | 272   | 189.67       | 4.36      | 1 297  | 4.77      | 6 244   | 229.36       |
| 87-88                                                                      | 1 161  | 228   | 196.74       | 4.26      | 1 017  | 4.58      | 4 917   | 231.74       |
| 88-89                                                                      | 933    | 187   | 200.57       | 4.18      | 839    | 4.49      | 3 900   | 239.23       |
| 89-90                                                                      | 746    | 151   | 201.59       | 4.10      | 671    | 4.46      | 3 061   | 243.90       |
| 90-91                                                                      | 595    | 119   | 201.01       | 4.01      | 536    | 4.47      | 2 390   | 249.38       |
| 91-92                                                                      | 476    | 96    | 200.52       | 3.89      | 428    | 4.49      | 1 854   | 257.07       |
| 92-93                                                                      | 380    | 76    | 201.86       | 3.75      | 342    | 4.45      | 1 426   | 266.67       |
| 93-94                                                                      | 304    | 63    | 206.44       | 3.57      | 272    | 4.34      | 1 084   | 280.11       |
| 94-95                                                                      | 241    | 52    | 215.03       | 3.37      | 215    | 4.15      | 812     | 296.74       |
| 95-96                                                                      | 189    | 43    | 227.76       | 3.15      | 168    | 3.89      | 597     | 317.46       |
| 96-97                                                                      | 146    | 36    | 244.29       | 2.93      | 128    | 3.59      | 429     | 341.30       |
| 97-98                                                                      | 110    | 29    | 263.98       | 2.72      | 96     | 3.29      | 301     | 367.65       |
| 98-99                                                                      | 81     | 23    | 286.16       | 2.51      | 70     | 2.99      | 205     | 398.11       |
| 99-100                                                                     | 58     | 18    | 310.34       | 2.32      | 49     | 2.72      | 135     | 431.03       |
| 100-101                                                                    | 40     | 13    | 336.29       | 2.14      | 33     | 2.47      | 86      | 467.29       |
| 101-102                                                                    | 27     | 10    | 363.98       | 1.97      | 22     | 2.25      | 53      | 507.61       |
| 102-103                                                                    | 17     | 7     | 393.51       | 1.81      | 14     | 2.04      | 31      | 552.19       |
| 103-104                                                                    | 10     | 4     | 425.09       | 1.66      | 8      | 1.85      | 17      | 602.11       |
| 104-105                                                                    | 6      | 3     | 458.83       | 1.53      | 5      | 1.68      | 9       | 653.59       |
| 105-106                                                                    | 3      | 1     | 495.02       | 1.40      | 2      | 1.52      | 4       | 714.29       |
| 106-107                                                                    | 2      | 1     | 533.75       | 1.27      | 1      | 1.37      | 2       | 787.40       |
| 107-108                                                                    | 1      | 1     | 575.15       | 1.16      | 1      | 1.24      | 1       | 862.07       |

TABLE 16

## LIFE TABLE FOR NEGRO FEMALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (206,944), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE INTERVAL.                                                      | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                                                    |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages.                         | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                                                       | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1                                                                  | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |
| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| Months.                                                            |                                            |                               | Monthly rate.                                                                | In years.                                                                        |                                                                                                                                                                                                             | Per month.                            |                                                                    | Annual rate.                                                                                 |
| 0-1                                                                | 100 000                                    | 6 072                         | 60.72                                                                        | 35.04                                                                            | 7 954                                                                                                                                                                                                       | 15.72                                 | 3 504 421                                                          | 28.54                                                                                        |
| 1-2                                                                | 93 928                                     | 2 108                         | 22.44                                                                        | 37.22                                                                            | 7 740                                                                                                                                                                                                       | 41.04                                 | 3 496 467                                                          | 26.87                                                                                        |
| 2-3                                                                | 91 820                                     | 1 933                         | 21.05                                                                        | 38.00                                                                            | 7 571                                                                                                                                                                                                       | 47.01                                 | 3 488 727                                                          | 26.32                                                                                        |
| 3-4                                                                | 89 887                                     | 1 777                         | 19.77                                                                        | 38.73                                                                            | 7 417                                                                                                                                                                                                       | 50.04                                 | 3 481 156                                                          | 25.82                                                                                        |
| 4-5                                                                | 88 110                                     | 1 635                         | 18.55                                                                        | 39.43                                                                            | 7 274                                                                                                                                                                                                       | 53.40                                 | 3 473 739                                                          | 25.36                                                                                        |
| 5-6                                                                | 86 475                                     | 1 492                         | 17.25                                                                        | 40.09                                                                            | 7 144                                                                                                                                                                                                       | 57.48                                 | 3 466 465                                                          | 24.94                                                                                        |
| 6-7                                                                | 84 983                                     | 1 355                         | 15.95                                                                        | 40.71                                                                            | 7 025                                                                                                                                                                                                       | 62.16                                 | 3 459 321                                                          | 24.56                                                                                        |
| 7-8                                                                | 83 628                                     | 1 232                         | 14.73                                                                        | 41.28                                                                            | 6 918                                                                                                                                                                                                       | 67.44                                 | 3 452 296                                                          | 24.22                                                                                        |
| 8-9                                                                | 82 396                                     | 1 107                         | 13.45                                                                        | 41.81                                                                            | 6 820                                                                                                                                                                                                       | 73.92                                 | 3 445 378                                                          | 23.92                                                                                        |
| 9-10                                                               | 81 289                                     | 1 004                         | 12.35                                                                        | 42.30                                                                            | 6 732                                                                                                                                                                                                       | 80.62                                 | 3 438 558                                                          | 23.64                                                                                        |
| 10-11                                                              | 80 285                                     | 913                           | 11.37                                                                        | 42.75                                                                            | 6 652                                                                                                                                                                                                       | 87.48                                 | 3 431 826                                                          | 23.39                                                                                        |
| 11-12                                                              | 79 372                                     | 847                           | 10.68                                                                        | 43.15                                                                            | 6 579                                                                                                                                                                                                       | 93.24                                 | 3 425 174                                                          | 23.17                                                                                        |
| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.   |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| Years.                                                             |                                            |                               | Annual rate.                                                                 | In years.                                                                        |                                                                                                                                                                                                             | Per year.                             |                                                                    | Annual rate.                                                                                 |
| 0-1                                                                | 100 000                                    | 21 475                        | 214.75                                                                       | 35.04                                                                            | 85 826                                                                                                                                                                                                      | 4.00                                  | 3 504 421                                                          | 28.54                                                                                        |
| 1-2                                                                | 78 525                                     | 5 515                         | 70.24                                                                        | 43.54                                                                            | 75 271                                                                                                                                                                                                      | 13.65                                 | 3 418 595                                                          | 22.97                                                                                        |
| 2-3                                                                | 73 010                                     | 2 578                         | 35.30                                                                        | 45.79                                                                            | 71 644                                                                                                                                                                                                      | 27.79                                 | 3 343 324                                                          | 21.84                                                                                        |
| 3-4                                                                | 70 432                                     | 1 353                         | 19.21                                                                        | 46.45                                                                            | 69 729                                                                                                                                                                                                      | 51.54                                 | 3 271 680                                                          | 21.53                                                                                        |
| 4-5                                                                | 69 079                                     | 1 023                         | 14.82                                                                        | 46.35                                                                            | 68 547                                                                                                                                                                                                      | 67.01                                 | 3 201 951                                                          | 21.57                                                                                        |
| 5-6                                                                | 68 056                                     | 718                           | 10.54                                                                        | 46.04                                                                            | 67 697                                                                                                                                                                                                      | 94.29                                 | 3 133 404                                                          | 21.72                                                                                        |
| 6-7                                                                | 67 338                                     | 630                           | 9.36                                                                         | 45.53                                                                            | 67 023                                                                                                                                                                                                      | 106.39                                | 3 065 707                                                          | 21.96                                                                                        |
| 7-8                                                                | 66 708                                     | 567                           | 8.50                                                                         | 44.95                                                                            | 66 425                                                                                                                                                                                                      | 117.15                                | 2 998 684                                                          | 22.25                                                                                        |
| 8-9                                                                | 66 141                                     | 525                           | 7.95                                                                         | 44.33                                                                            | 65 879                                                                                                                                                                                                      | 125.48                                | 2 932 259                                                          | 22.56                                                                                        |
| 9-10                                                               | 65 616                                     | 505                           | 7.70                                                                         | 43.68                                                                            | 65 363                                                                                                                                                                                                      | 129.43                                | 2 866 380                                                          | 22.89                                                                                        |
| 10-11                                                              | 65 111                                     | 503                           | 7.72                                                                         | 43.02                                                                            | 64 859                                                                                                                                                                                                      | 128.94                                | 2 801 017                                                          | 23.25                                                                                        |
| 11-12                                                              | 64 608                                     | 515                           | 7.97                                                                         | 42.35                                                                            | 64 351                                                                                                                                                                                                      | 124.95                                | 2 736 158                                                          | 23.61                                                                                        |
| 12-13                                                              | 64 093                                     | 538                           | 8.39                                                                         | 41.69                                                                            | 63 824                                                                                                                                                                                                      | 118.63                                | 2 671 807                                                          | 23.99                                                                                        |
| 13-14                                                              | 63 555                                     | 568                           | 8.94                                                                         | 41.04                                                                            | 63 271                                                                                                                                                                                                      | 111.39                                | 2 607 983                                                          | 24.37                                                                                        |
| 14-15                                                              | 62 987                                     | 603                           | 9.57                                                                         | 40.40                                                                            | 62 686                                                                                                                                                                                                      | 103.96                                | 2 544 712                                                          | 24.75                                                                                        |
| 15-16                                                              | 62 384                                     | 640                           | 10.26                                                                        | 39.79                                                                            | 62 064                                                                                                                                                                                                      | 96.98                                 | 2 482 026                                                          | 25.13                                                                                        |
| 16-17                                                              | 61 744                                     | 667                           | 10.80                                                                        | 39.19                                                                            | 61 411                                                                                                                                                                                                      | 92.07                                 | 2 419 962                                                          | 25.52                                                                                        |
| 17-18                                                              | 61 077                                     | 676                           | 11.08                                                                        | 38.62                                                                            | 60 739                                                                                                                                                                                                      | 89.85                                 | 2 358 551                                                          | 25.89                                                                                        |
| 18-19                                                              | 60 401                                     | 675                           | 11.17                                                                        | 38.04                                                                            | 60 064                                                                                                                                                                                                      | 86.98                                 | 2 297 812                                                          | 26.29                                                                                        |
| 19-20                                                              | 59 726                                     | 673                           | 11.28                                                                        | 37.47                                                                            | 59 390                                                                                                                                                                                                      | 88.25                                 | 2 237 748                                                          | 26.69                                                                                        |
| 20-21                                                              | 59 053                                     | 673                           | 11.39                                                                        | 36.89                                                                            | 58 717                                                                                                                                                                                                      | 87.25                                 | 2 178 358                                                          | 27.11                                                                                        |
| 21-22                                                              | 58 380                                     | 666                           | 11.42                                                                        | 36.31                                                                            | 58 047                                                                                                                                                                                                      | 87.16                                 | 2 119 641                                                          | 27.54                                                                                        |
| 22-23                                                              | 57 714                                     | 655                           | 11.34                                                                        | 35.72                                                                            | 57 386                                                                                                                                                                                                      | 87.61                                 | 2 061 594                                                          | 28.00                                                                                        |
| 23-24                                                              | 57 059                                     | 639                           | 11.20                                                                        | 35.13                                                                            | 56 740                                                                                                                                                                                                      | 88.79                                 | 2 004 208                                                          | 28.47                                                                                        |
| 24-25                                                              | 56 420                                     | 625                           | 11.07                                                                        | 34.52                                                                            | 56 108                                                                                                                                                                                                      | 89.77                                 | 1 947 468                                                          | 28.97                                                                                        |
| 25-26                                                              | 55 795                                     | 609                           | 10.92                                                                        | 33.90                                                                            | 55 491                                                                                                                                                                                                      | 91.12                                 | 1 891 360                                                          | 29.50                                                                                        |
| 26-27                                                              | 55 186                                     | 599                           | 10.86                                                                        | 33.27                                                                            | 54 896                                                                                                                                                                                                      | 91.63                                 | 1 835 869                                                          | 30.06                                                                                        |
| 27-28                                                              | 54 587                                     | 596                           | 10.96                                                                        | 32.63                                                                            | 54 288                                                                                                                                                                                                      | 90.78                                 | 1 780 983                                                          | 30.65                                                                                        |
| 28-29                                                              | 53 989                                     | 605                           | 11.19                                                                        | 31.98                                                                            | 53 687                                                                                                                                                                                                      | 88.74                                 | 1 726 695                                                          | 31.27                                                                                        |
| 29-30                                                              | 53 384                                     | 611                           | 11.46                                                                        | 31.34                                                                            | 53 079                                                                                                                                                                                                      | 86.87                                 | 1 673 008                                                          | 31.91                                                                                        |
| 30-31                                                              | 52 773                                     | 623                           | 11.80                                                                        | 30.70                                                                            | 52 461                                                                                                                                                                                                      | 84.21                                 | 1 619 929                                                          | 32.57                                                                                        |
| 31-32                                                              | 52 150                                     | 636                           | 12.19                                                                        | 30.06                                                                            | 51 832                                                                                                                                                                                                      | 81.50                                 | 1 567 468                                                          | 33.27                                                                                        |
| 32-33                                                              | 51 514                                     | 644                           | 12.50                                                                        | 29.42                                                                            | 51 192                                                                                                                                                                                                      | 79.49                                 | 1 515 636                                                          | 33.99                                                                                        |
| 33-34                                                              | 50 870                                     | 648                           | 12.75                                                                        | 28.79                                                                            | 50 546                                                                                                                                                                                                      | 78.00                                 | 1 464 444                                                          | 34.73                                                                                        |
| 34-35                                                              | 50 222                                     | 655                           | 13.05                                                                        | 28.15                                                                            | 49 894                                                                                                                                                                                                      | 76.17                                 | 1 413 898                                                          | 35.52                                                                                        |
| 35-36                                                              | 49 567                                     | 663                           | 13.38                                                                        | 27.52                                                                            | 49 235                                                                                                                                                                                                      | 74.26                                 | 1 364 004                                                          | 36.34                                                                                        |
| 36-37                                                              | 48 904                                     | 672                           | 13.74                                                                        | 26.88                                                                            | 48 568                                                                                                                                                                                                      | 72.27                                 | 1 314 769                                                          | 37.20                                                                                        |
| 37-38                                                              | 48 232                                     | 683                           | 14.16                                                                        | 26.25                                                                            | 47 890                                                                                                                                                                                                      | 70.13                                 | 1 266 201                                                          | 38.10                                                                                        |
| 38-39                                                              | 47 549                                     | 696                           | 14.63                                                                        | 25.62                                                                            | 47 201                                                                                                                                                                                                      | 67.82                                 | 1 218 311                                                          | 39.03                                                                                        |
| 39-40                                                              | 46 853                                     | 707                           | 15.11                                                                        | 25.00                                                                            | 46 499                                                                                                                                                                                                      | 65.77                                 | 1 171 110                                                          | 40.00                                                                                        |
| 40-41                                                              | 46 146                                     | 719                           | 15.56                                                                        | 24.37                                                                            | 45 786                                                                                                                                                                                                      | 63.68                                 | 1 124 611                                                          | 41.03                                                                                        |
| 41-42                                                              | 45 427                                     | 734                           | 16.18                                                                        | 23.75                                                                            | 45 060                                                                                                                                                                                                      | 61.39                                 | 1 078 825                                                          | 42.11                                                                                        |
| 42-43                                                              | 44 693                                     | 764                           | 17.09                                                                        | 23.13                                                                            | 44 311                                                                                                                                                                                                      | 58.00                                 | 1 033 765                                                          | 43.23                                                                                        |
| 43-44                                                              | 43 929                                     | 804                           | 18.29                                                                        | 22.52                                                                            | 43 527                                                                                                                                                                                                      | 54.14                                 | 989 454                                                            | 44.40                                                                                        |
| 44-45                                                              | 43 125                                     | 846                           | 19.63                                                                        | 21.93                                                                            | 42 702                                                                                                                                                                                                      | 50.48                                 | 945 927                                                            | 45.60                                                                                        |

## ORIGINAL REGISTRATION STATES: 1901.

## TABLE 16

REPORTED DEATHS IN 1900 (4,982), IN 1901 (4,804), AND IN 1902 (4,732).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 19.

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000/L_x/T_x$                                                                               |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |       |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        |       | Per year. | Annual rate. |
| 45-46                                                                      | 42 279 | 901   | 21.30        | 21.36     | 41 828 | 46.42 | 903 225   | 46.82        |
| 46-47                                                                      | 41 378 | 939   | 22.70        | 20.82     | 40 908 | 43.57 | 861 397   | 48.03        |
| 47-48                                                                      | 40 439 | 942   | 23.28        | 20.29     | 39 968 | 42.43 | 820 489   | 49.29        |
| 48-49                                                                      | 39 497 | 918   | 23.25        | 19.76     | 39 038 | 42.53 | 780 521   | 50.61        |
| 49-50                                                                      | 38 579 | 898   | 23.28        | 19.22     | 38 130 | 42.46 | 741 483   | 52.03        |
| 50-51                                                                      | 37 681 | 873   | 23.18        | 18.67     | 37 244 | 42.66 | 703 353   | 53.56        |
| 51-52                                                                      | 36 808 | 865   | 23.50        | 18.10     | 36 375 | 42.05 | 666 109   | 55.25        |
| 52-53                                                                      | 35 943 | 868   | 24.69        | 17.52     | 35 499 | 39.98 | 629 731   | 57.08        |
| 53-54                                                                      | 35 055 | 937   | 26.74        | 16.95     | 34 587 | 36.91 | 594 235   | 59.00        |
| 54-55                                                                      | 34 118 | 994   | 29.12        | 16.40     | 33 621 | 33.82 | 559 648   | 60.98        |
| 55-56                                                                      | 33 124 | 1 068 | 32.25        | 15.88     | 32 590 | 30.51 | 526 027   | 62.97        |
| 56-57                                                                      | 32 056 | 1 135 | 35.42        | 15.39     | 31 489 | 27.74 | 493 437   | 64.98        |
| 57-58                                                                      | 30 921 | 1 154 | 37.32        | 14.94     | 30 344 | 26.29 | 461 948   | 66.93        |
| 58-59                                                                      | 29 767 | 1 130 | 37.98        | 14.50     | 29 202 | 25.84 | 431 604   | 68.97        |
| 59-60                                                                      | 28 637 | 1 113 | 38.84        | 14.05     | 28 080 | 25.23 | 402 402   | 71.17        |
| 60-61                                                                      | 27 524 | 1 087 | 39.51        | 13.60     | 26 981 | 24.82 | 374 322   | 73.53        |
| 61-62                                                                      | 26 437 | 1 074 | 40.64        | 13.14     | 25 900 | 24.12 | 347 341   | 76.10        |
| 62-63                                                                      | 25 363 | 1 059 | 42.91        | 12.67     | 24 818 | 22.79 | 321 441   | 78.93        |
| 63-64                                                                      | 24 274 | 1 124 | 46.30        | 12.22     | 23 712 | 21.10 | 296 623   | 81.83        |
| 64-65                                                                      | 23 150 | 1 155 | 49.89        | 11.79     | 22 573 | 19.54 | 272 911   | 84.82        |
| 65-66                                                                      | 21 995 | 1 189 | 54.07        | 11.38     | 21 401 | 18.00 | 250 338   | 87.87        |
| 66-67                                                                      | 20 806 | 1 209 | 58.10        | 11.00     | 20 202 | 16.71 | 228 937   | 90.91        |
| 67-68                                                                      | 19 597 | 1 194 | 60.92        | 10.65     | 19 000 | 15.91 | 208 735   | 93.90        |
| 68-69                                                                      | 18 403 | 1 152 | 62.61        | 10.31     | 17 827 | 15.47 | 189 735   | 96.99        |
| 69-70                                                                      | 17 251 | 1 111 | 64.44        | 9.97      | 16 695 | 15.03 | 171 908   | 100.30       |
| 70-71                                                                      | 16 140 | 1 066 | 66.00        | 9.62      | 15 607 | 14.61 | 155 213   | 103.95       |
| 71-72                                                                      | 15 074 | 1 026 | 68.07        | 9.26      | 14 561 | 14.19 | 139 606   | 107.99       |
| 72-73                                                                      | 14 048 | 1 004 | 71.49        | 8.90      | 13 546 | 13.49 | 125 045   | 112.36       |
| 73-74                                                                      | 13 044 | 996   | 76.31        | 8.55      | 12 546 | 12.60 | 111 499   | 116.96       |
| 74-75                                                                      | 12 048 | 982   | 81.53        | 8.21      | 11 557 | 11.77 | 98 953    | 121.80       |
| 75-76                                                                      | 11 066 | 961   | 86.86        | 7.90      | 10 586 | 11.02 | 87 396    | 126.58       |
| 76-77                                                                      | 10 105 | 923   | 91.38        | 7.60      | 9 643  | 10.45 | 76 810    | 131.58       |
| 77-78                                                                      | 9 182  | 878   | 95.54        | 7.32      | 8 743  | 9.96  | 67 167    | 136.61       |
| 78-79                                                                      | 8 304  | 825   | 99.37        | 7.04      | 7 892  | 9.57  | 58 424    | 142.05       |
| 79-80                                                                      | 7 479  | 771   | 103.07       | 6.76      | 7 094  | 9.20  | 50 532    | 147.93       |
| 80-81                                                                      | 6 708  | 718   | 107.04       | 6.48      | 6 349  | 8.84  | 43 438    | 154.32       |
| 81-82                                                                      | 5 990  | 669   | 111.70       | 6.19      | 5 656  | 8.45  | 37 089    | 161.55       |
| 82-83                                                                      | 5 321  | 625   | 117.44       | 5.91      | 5 009  | 8.01  | 31 433    | 169.20       |
| 83-84                                                                      | 4 696  | 584   | 124.40       | 5.63      | 4 401  | 7.54  | 26 424    | 177.62       |
| 84-85                                                                      | 4 112  | 545   | 132.48       | 5.36      | 3 840  | 7.05  | 22 020    | 186.57       |
| 85-86                                                                      | 3 567  | 504   | 141.35       | 5.10      | 3 315  | 6.57  | 18 180    | 196.08       |
| 86-87                                                                      | 3 063  | 461   | 150.61       | 4.85      | 2 832  | 6.14  | 14 865    | 206.19       |
| 87-88                                                                      | 2 602  | 416   | 159.93       | 4.63      | 2 391  | 5.75  | 12 033    | 215.98       |
| 88-89                                                                      | 2 186  | 370   | 169.16       | 4.41      | 2 001  | 5.41  | 9 639     | 226.76       |
| 89-90                                                                      | 1 816  | 324   | 178.38       | 4.21      | 1 654  | 5.11  | 7 638     | 237.53       |
| 90-91                                                                      | 1 492  | 280   | 187.80       | 4.01      | 1 352  | 4.82  | 5 984     | 249.38       |
| 91-92                                                                      | 1 212  | 240   | 197.72       | 3.82      | 1 092  | 4.56  | 4 632     | 261.78       |
| 92-93                                                                      | 972    | 202   | 208.31       | 3.64      | 871    | 4.30  | 3 510     | 274.73       |
| 93-94                                                                      | 770    | 169   | 219.62       | 3.47      | 685    | 4.05  | 2 669     | 288.18       |
| 94-95                                                                      | 601    | 139   | 231.52       | 3.31      | 531    | 3.82  | 1 984     | 302.11       |
| 95-96                                                                      | 462    | 113   | 243.76       | 3.15      | 405    | 3.60  | 1 453     | 317.46       |
| 96-97                                                                      | 349    | 89    | 256.13       | 3.00      | 304    | 3.40  | 1 048     | 333.33       |
| 97-98                                                                      | 260    | 70    | 268.49       | 2.87      | 225    | 3.22  | 744       | 348.43       |
| 98-99                                                                      | 190    | 53    | 280.84       | 2.74      | 163    | 3.06  | 519       | 364.96       |
| 99-100                                                                     | 137    | 40    | 293.38       | 2.61      | 117    | 2.91  | 356       | 383.14       |
| 100-101                                                                    | 97     | 30    | 306.41       | 2.49      | 82     | 2.76  | 239       | 401.61       |
| 101-102                                                                    | 67     | 21    | 320.25       | 2.36      | 56     | 2.62  | 157       | 423.73       |
| 102-103                                                                    | 46     | 16    | 335.55       | 2.24      | 38     | 2.48  | 101       | 446.43       |
| 103-104                                                                    | 30     | 10    | 352.15       | 2.12      | 25     | 2.34  | 63        | 471.70       |
| 104-105                                                                    | 20     | 8     | 370.24       | 2.00      | 16     | 2.20  | 38        | 500.00       |
| 105-106                                                                    | 12     | 4     | 390.04       | 1.88      | 10     | 2.06  | 22        | 531.91       |
| 106-107                                                                    | 8      | 4     | 411.86       | 1.76      | 6      | 1.93  | 12        | 568.18       |
| 107-108                                                                    | 4      | 2     | 436.07       | 1.64      | 3      | 1.79  | 6         | 609.76       |
| 108-109                                                                    | 2      | 1     | 463.19       | 1.52      | 2      | 1.66  | 3         | 657.89       |
| 109-110                                                                    | 1      | 1     | 493.91       | 1.40      | 1      | 1.52  | 1         | 714.29       |

TABLE 17

## LIFE TABLE FOR NEGRO FEMALES IN THE

BASED ON THE ESTIMATED MEAN POPULATION FOR THE 10-YEAR PERIOD, 1901 TO 1910 (222,906), AND ON THE 1907 (5,413), IN 1908 (5,333), IN

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE INTERVAL.                                                      | OF 100,000 FEMALES BORN ALIVE: |        | RATE OF MORTALITY PER THOUSAND. | COMPLETE EXPECTATION OF LIFE. | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------------------------------|--------------------------------|--------|---------------------------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                                                    |                                |        |                                 |                               | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
|                                                                    |                                |        |                                 |                               | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                                                       | $L_x$                          | $d_x$  | $1000q_x$                       | $e_x$                         | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                                                  | 2                              | 3      | 4                               | 5                             | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |
| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |                                |        |                                 |                               |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| Months.                                                            | 100 000                        |        | Monthly rate.                   | In years.                     |                                                                                                                                                                                                             | Per month.                            |                                                                    | Annual rate.                                                                                 |
| 0-1                                                                | 100 000                        | 6 417  | 64.17                           | 35.65                         | 7 932                                                                                                                                                                                                       | 14.88                                 | 3 564 820                                                          | 28.05                                                                                        |
| 1-2                                                                | 93 583                         | 1 935  | 20.68                           | 38.01                         | 7 718                                                                                                                                                                                                       | 47.88                                 | 3 556 888                                                          | 26.31                                                                                        |
| 2-3                                                                | 91 618                         | 1 784  | 19.47                           | 38.73                         | 7 563                                                                                                                                                                                                       | 50.88                                 | 3 549 170                                                          | 25.82                                                                                        |
| 3-4                                                                | 89 864                         | 1 614  | 18.29                           | 39.41                         | 7 420                                                                                                                                                                                                       | 54.12                                 | 3 541 607                                                          | 25.37                                                                                        |
| 4-5                                                                | 88 220                         | 1 504  | 17.05                           | 40.06                         | 7 289                                                                                                                                                                                                       | 58.20                                 | 3 534 187                                                          | 24.96                                                                                        |
| 5-6                                                                | 86 716                         | 1 375  | 15.85                           | 40.67                         | 7 169                                                                                                                                                                                                       | 62.52                                 | 3 526 898                                                          | 24.59                                                                                        |
| 6-7                                                                | 85 341                         | 1 253  | 14.69                           | 41.24                         | 7 060                                                                                                                                                                                                       | 67.56                                 | 3 519 729                                                          | 24.25                                                                                        |
| 7-8                                                                | 84 088                         | 1 139  | 13.54                           | 41.77                         | 6 960                                                                                                                                                                                                       | 73.32                                 | 3 512 669                                                          | 23.94                                                                                        |
| 8-9                                                                | 82 949                         | 1 028  | 12.40                           | 42.26                         | 6 870                                                                                                                                                                                                       | 80.16                                 | 3 505 709                                                          | 23.66                                                                                        |
| 9-10                                                               | 81 921                         | 929    | 11.34                           | 42.71                         | 6 788                                                                                                                                                                                                       | 87.72                                 | 3 498 839                                                          | 23.41                                                                                        |
| 10-11                                                              | 80 992                         | 842    | 10.39                           | 43.12                         | 6 714                                                                                                                                                                                                       | 95.64                                 | 3 492 051                                                          | 23.19                                                                                        |
| 11-12                                                              | 80 150                         | 774    | 9.65                            | 43.49                         | 6 647                                                                                                                                                                                                       | 103.08                                | 3 485 337                                                          | 22.99                                                                                        |
| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.   |                                |        |                                 |                               |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| Years.                                                             | 100 000                        |        | Annual rate.                    | In years.                     |                                                                                                                                                                                                             | Per year.                             |                                                                    | Annual rate.                                                                                 |
| 0-1                                                                | 100 000                        | 20 624 | 206.24                          | 35.65                         | 86 130                                                                                                                                                                                                      | 4.18                                  | 3 564 820                                                          | 28.05                                                                                        |
| 1-2                                                                | 79 376                         | 5 175  | 65.20                           | 43.83                         | 76 323                                                                                                                                                                                                      | 14.75                                 | 3 478 690                                                          | 22.82                                                                                        |
| 2-3                                                                | 74 201                         | 2 311  | 31.19                           | 45.85                         | 72 974                                                                                                                                                                                                      | 31.54                                 | 3 402 367                                                          | 21.81                                                                                        |
| 3-4                                                                | 71 857                         | 1 313  | 18.26                           | 46.31                         | 71 204                                                                                                                                                                                                      | 51.23                                 | 3 329 393                                                          | 21.59                                                                                        |
| 4-5                                                                | 70 574                         | 917    | 12.99                           | 46.17                         | 70 097                                                                                                                                                                                                      | 76.44                                 | 3 258 189                                                          | 21.66                                                                                        |
| 5-6                                                                | 69 657                         | 725    | 10.42                           | 45.77                         | 69 294                                                                                                                                                                                                      | 95.58                                 | 3 188 092                                                          | 21.85                                                                                        |
| 6-7                                                                | 68 932                         | 596    | 8.64                            | 45.24                         | 68 634                                                                                                                                                                                                      | 115.16                                | 3 118 798                                                          | 22.10                                                                                        |
| 7-8                                                                | 68 336                         | 503    | 7.36                            | 44.63                         | 68 084                                                                                                                                                                                                      | 135.36                                | 3 050 161                                                          | 22.41                                                                                        |
| 8-9                                                                | 67 833                         | 445    | 6.56                            | 43.96                         | 67 611                                                                                                                                                                                                      | 151.93                                | 2 982 080                                                          | 22.75                                                                                        |
| 9-10                                                               | 67 388                         | 419    | 6.21                            | 43.25                         | 67 179                                                                                                                                                                                                      | 160.33                                | 2 914 469                                                          | 23.12                                                                                        |
| 10-11                                                              | 66 969                         | 420    | 6.27                            | 42.52                         | 66 759                                                                                                                                                                                                      | 158.95                                | 2 847 290                                                          | 23.52                                                                                        |
| 11-12                                                              | 66 519                         | 444    | 6.68                            | 41.78                         | 66 327                                                                                                                                                                                                      | 149.39                                | 2 780 531                                                          | 23.93                                                                                        |
| 12-13                                                              | 66 105                         | 487    | 7.36                            | 41.06                         | 65 862                                                                                                                                                                                                      | 135.24                                | 2 714 204                                                          | 24.35                                                                                        |
| 13-14                                                              | 65 618                         | 538    | 8.21                            | 40.36                         | 65 349                                                                                                                                                                                                      | 121.47                                | 2 648 342                                                          | 24.78                                                                                        |
| 14-15                                                              | 65 080                         | 599    | 9.21                            | 39.69                         | 64 780                                                                                                                                                                                                      | 108.15                                | 2 582 993                                                          | 25.20                                                                                        |
| 15-16                                                              | 64 481                         | 667    | 10.34                           | 39.05                         | 64 148                                                                                                                                                                                                      | 96.17                                 | 2 518 213                                                          | 25.61                                                                                        |
| 16-17                                                              | 63 814                         | 712    | 11.17                           | 38.46                         | 63 458                                                                                                                                                                                                      | 89.13                                 | 2 454 065                                                          | 26.00                                                                                        |
| 17-18                                                              | 63 102                         | 734    | 11.47                           | 37.88                         | 62 740                                                                                                                                                                                                      | 86.66                                 | 2 390 607                                                          | 26.40                                                                                        |
| 18-19                                                              | 62 378                         | 715    | 11.47                           | 37.32                         | 62 020                                                                                                                                                                                                      | 86.74                                 | 2 327 867                                                          | 26.80                                                                                        |
| 19-20                                                              | 61 663                         | 711    | 11.52                           | 36.75                         | 61 307                                                                                                                                                                                                      | 86.23                                 | 2 265 847                                                          | 27.21                                                                                        |
| 20-21                                                              | 60 952                         | 706    | 11.58                           | 36.17                         | 60 599                                                                                                                                                                                                      | 85.83                                 | 2 204 540                                                          | 27.65                                                                                        |
| 21-22                                                              | 60 246                         | 699    | 11.62                           | 35.59                         | 59 896                                                                                                                                                                                                      | 85.69                                 | 2 143 941                                                          | 28.10                                                                                        |
| 22-23                                                              | 59 547                         | 694    | 11.65                           | 35.00                         | 59 200                                                                                                                                                                                                      | 85.30                                 | 2 084 045                                                          | 28.57                                                                                        |
| 23-24                                                              | 58 853                         | 688    | 11.68                           | 34.41                         | 58 509                                                                                                                                                                                                      | 85.04                                 | 2 024 845                                                          | 29.06                                                                                        |
| 24-25                                                              | 58 165                         | 680    | 11.70                           | 33.81                         | 57 825                                                                                                                                                                                                      | 85.04                                 | 1 966 336                                                          | 29.58                                                                                        |
| 25-26                                                              | 57 485                         | 673    | 11.70                           | 33.20                         | 57 148                                                                                                                                                                                                      | 84.92                                 | 1 908 511                                                          | 30.12                                                                                        |
| 26-27                                                              | 56 812                         | 667    | 11.74                           | 32.59                         | 56 479                                                                                                                                                                                                      | 81.68                                 | 1 851 363                                                          | 30.68                                                                                        |
| 27-28                                                              | 56 145                         | 664    | 11.83                           | 31.97                         | 55 813                                                                                                                                                                                                      | 84.06                                 | 1 794 884                                                          | 31.28                                                                                        |
| 28-29                                                              | 55 481                         | 665    | 11.98                           | 31.35                         | 55 149                                                                                                                                                                                                      | 82.93                                 | 1 739 071                                                          | 31.90                                                                                        |
| 29-30                                                              | 54 816                         | 666    | 12.15                           | 30.72                         | 54 483                                                                                                                                                                                                      | 81.81                                 | 1 683 922                                                          | 32.55                                                                                        |
| 30-31                                                              | 54 150                         | 669    | 12.37                           | 30.09                         | 53 815                                                                                                                                                                                                      | 80.44                                 | 1 629 439                                                          | 33.23                                                                                        |
| 31-32                                                              | 53 481                         | 676    | 12.63                           | 29.46                         | 53 143                                                                                                                                                                                                      | 78.61                                 | 1 575 624                                                          | 33.94                                                                                        |
| 32-33                                                              | 52 805                         | 680    | 12.89                           | 28.83                         | 52 465                                                                                                                                                                                                      | 77.15                                 | 1 522 481                                                          | 34.69                                                                                        |
| 33-34                                                              | 52 125                         | 686    | 13.15                           | 28.20                         | 51 782                                                                                                                                                                                                      | 75.48                                 | 1 470 016                                                          | 35.46                                                                                        |
| 34-35                                                              | 51 439                         | 691    | 13.43                           | 27.57                         | 51 094                                                                                                                                                                                                      | 73.91                                 | 1 418 234                                                          | 36.27                                                                                        |
| 35-36                                                              | 50 748                         | 697    | 13.73                           | 26.94                         | 50 400                                                                                                                                                                                                      | 72.31                                 | 1 367 140                                                          | 37.12                                                                                        |
| 36-37                                                              | 50 051                         | 705    | 14.10                           | 26.31                         | 49 698                                                                                                                                                                                                      | 70.49                                 | 1 316 740                                                          | 38.01                                                                                        |
| 37-38                                                              | 49 346                         | 719    | 14.57                           | 25.68                         | 48 986                                                                                                                                                                                                      | 68.13                                 | 1 267 042                                                          | 38.94                                                                                        |
| 38-39                                                              | 48 627                         | 736    | 15.13                           | 25.05                         | 48 259                                                                                                                                                                                                      | 65.57                                 | 1 218 056                                                          | 39.92                                                                                        |
| 39-40                                                              | 47 891                         | 754    | 15.74                           | 24.43                         | 47 514                                                                                                                                                                                                      | 63.02                                 | 1 169 797                                                          | 40.93                                                                                        |
| 40-41                                                              | 47 137                         | 772    | 16.39                           | 23.81                         | 46 751                                                                                                                                                                                                      | 60.56                                 | 1 122 283                                                          | 42.00                                                                                        |
| 41-42                                                              | 46 365                         | 793    | 17.09                           | 23.20                         | 45 969                                                                                                                                                                                                      | 57.97                                 | 1 075 532                                                          | 43.10                                                                                        |
| 42-43                                                              | 45 572                         | 815    | 17.89                           | 22.59                         | 45 165                                                                                                                                                                                                      | 55.42                                 | 1 029 563                                                          | 44.27                                                                                        |
| 43-44                                                              | 44 757                         | 841    | 18.79                           | 21.99                         | 44 347                                                                                                                                                                                                      | 52.72                                 | 984 398                                                            | 45.48                                                                                        |
| 44-45                                                              | 43 916                         | 871    | 19.84                           | 21.41                         | 43 481                                                                                                                                                                                                      | 49.92                                 | 940 061                                                            | 46.71                                                                                        |

## ORIGINAL REGISTRATION STATES: 1901 TO 1910.

## TABLE 17

REPORTED DEATHS IN 1901 (4,804), IN 1902 (4,732), IN 1903 (5,042), IN 1904 (5,400), IN 1905 (5,403), IN 1906 (5,284), IN 1909 (5,025), AND IN 1910 (5,481).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE<br>INTERVAL. | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                  |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
|                  | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |         |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|---------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |         | Annual rate. |
| 45-46                                                                      | 43 045 | 909   | 21.11        | 20.83     | 42 591 | 46.85     | 896 580 | 48.01        |
| 46-47                                                                      | 42 136 | 910   | 22.33        | 20.27     | 41 666 | 44.33     | 853 989 | 49.33        |
| 47-48                                                                      | 41 196 | 955   | 23.18        | 19.72     | 40 718 | 42.64     | 812 323 | 50.71        |
| 48-49                                                                      | 40 211 | 955   | 23.72        | 19.17     | 39 763 | 41.61     | 771 605 | 52.16        |
| 49-50                                                                      | 39 286 | 953   | 24.27        | 18.63     | 38 809 | 40.72     | 731 812 | 53.68        |
| 50-51                                                                      | 38 333 | 917   | 24.70        | 18.08     | 37 859 | 39.98     | 693 033 | 55.31        |
| 51-52                                                                      | 37 386 | 950   | 25.40        | 17.52     | 36 911 | 38.85     | 655 174 | 57.08        |
| 52-53                                                                      | 36 436 | 974   | 26.72        | 16.97     | 35 949 | 36.91     | 618 263 | 58.93        |
| 53-54                                                                      | 35 462 | 1 018 | 28.72        | 16.42     | 34 953 | 34.33     | 582 314 | 60.90        |
| 54-55                                                                      | 34 444 | 1 068 | 31.02        | 15.89     | 33 910 | 31.75     | 547 361 | 62.93        |
| 55-56                                                                      | 33 376 | 1 134 | 33.97        | 15.38     | 32 809 | 28.93     | 513 451 | 65.02        |
| 56-57                                                                      | 32 242 | 1 194 | 37.02        | 14.91     | 31 645 | 26.50     | 480 612 | 67.07        |
| 57-58                                                                      | 31 048 | 1 216 | 39.18        | 14.46     | 30 440 | 25.03     | 448 997 | 69.16        |
| 58-59                                                                      | 29 832 | 1 205 | 40.39        | 14.03     | 29 229 | 24.26     | 418 557 | 71.28        |
| 59-60                                                                      | 28 627 | 1 194 | 41.73        | 13.60     | 28 030 | 23.48     | 389 328 | 73.53        |
| 60-61                                                                      | 27 433 | 1 177 | 42.89        | 13.17     | 26 844 | 22.81     | 361 298 | 75.93        |
| 61-62                                                                      | 26 256 | 1 166 | 44.10        | 12.74     | 25 673 | 22.02     | 334 454 | 78.49        |
| 62-63                                                                      | 25 090 | 1 176 | 46.87        | 12.31     | 24 502 | 20.84     | 308 781 | 81.23        |
| 63-64                                                                      | 23 914 | 1 203 | 50.31        | 11.89     | 23 313 | 19.38     | 284 279 | 84.10        |
| 64-65                                                                      | 22 711 | 1 225 | 53.93        | 11.49     | 22 099 | 18.04     | 260 966 | 87.03        |
| 65-66                                                                      | 21 486 | 1 247 | 58.08        | 11.12     | 20 862 | 16.73     | 238 867 | 89.93        |
| 66-67                                                                      | 20 239 | 1 256 | 62.06        | 10.77     | 19 611 | 15.61     | 218 005 | 92.85        |
| 67-68                                                                      | 18 983 | 1 233 | 61.91        | 10.45     | 18 367 | 14.90     | 198 391 | 95.69        |
| 68-69                                                                      | 17 750 | 1 183 | 66.70        | 10.14     | 17 159 | 14.50     | 180 027 | 98.62        |
| 69-70                                                                      | 16 567 | 1 136 | 68.57        | 9.83      | 15 999 | 14.08     | 162 868 | 101.73       |
| 70-71                                                                      | 15 431 | 1 084 | 70.23        | 9.52      | 14 889 | 13.74     | 146 869 | 105.04       |
| 71-72                                                                      | 14 317 | 1 035 | 72.15        | 9.20      | 13 829 | 13.36     | 131 980 | 108.70       |
| 72-73                                                                      | 13 312 | 998   | 74.97        | 8.88      | 12 813 | 12.84     | 118 151 | 112.61       |
| 73-74                                                                      | 12 314 | 970   | 78.75        | 8.55      | 11 829 | 12.19     | 105 338 | 116.96       |
| 74-75                                                                      | 11 314 | 938   | 82.71        | 8.24      | 10 875 | 11.59     | 93 509  | 121.36       |
| 75-76                                                                      | 10 406 | 901   | 86.60        | 7.94      | 9 955  | 11.05     | 82 634  | 125.94       |
| 76-77                                                                      | 9 505  | 859   | 90.35        | 7.65      | 9 075  | 10.56     | 72 679  | 130.72       |
| 77-78                                                                      | 8 616  | 815   | 94.19        | 7.36      | 8 239  | 10.11     | 63 604  | 135.87       |
| 78-79                                                                      | 7 831  | 769   | 98.23        | 7.07      | 7 447  | 9.68      | 55 365  | 141.44       |
| 79-80                                                                      | 7 062  | 724   | 102.61       | 6.79      | 6 700  | 9.25      | 47 918  | 147.28       |
| 80-81                                                                      | 6 338  | 682   | 107.53       | 6.50      | 5 997  | 8.80      | 41 218  | 153.85       |
| 81-82                                                                      | 5 656  | 640   | 113.09       | 6.23      | 5 336  | 8.34      | 35 221  | 160.51       |
| 82-83                                                                      | 5 016  | 598   | 119.31       | 5.96      | 4 717  | 7.88      | 29 885  | 167.79       |
| 83-84                                                                      | 4 418  | 557   | 126.11       | 5.70      | 4 139  | 7.43      | 25 168  | 175.44       |
| 84-85                                                                      | 3 861  | 515   | 133.36       | 5.45      | 3 603  | 7.00      | 21 029  | 183.49       |
| 85-86                                                                      | 3 346  | 471   | 140.88       | 5.21      | 3 110  | 6.60      | 17 426  | 191.94       |
| 86-87                                                                      | 2 875  | 427   | 148.54       | 4.98      | 2 661  | 6.23      | 14 316  | 200.80       |
| 87-88                                                                      | 2 418  | 383   | 156.30       | 4.76      | 2 256  | 5.90      | 11 655  | 210.08       |
| 88-89                                                                      | 2 065  | 339   | 164.21       | 4.55      | 1 895  | 5.59      | 9 399   | 219.78       |
| 89-90                                                                      | 1 726  | 298   | 172.39       | 4.35      | 1 577  | 5.30      | 7 504   | 229.89       |
| 90-91                                                                      | 1 428  | 258   | 181.00       | 4.15      | 1 299  | 5.03      | 5 927   | 240.96       |
| 91-92                                                                      | 1 170  | 223   | 190.13       | 3.95      | 1 059  | 4.76      | 4 628   | 253.16       |
| 92-93                                                                      | 947    | 189   | 199.90       | 3.76      | 853    | 4.50      | 3 569   | 265.96       |
| 93-94                                                                      | 758    | 159   | 210.35       | 3.58      | 678    | 4.25      | 2 716   | 279.33       |
| 94-95                                                                      | 599    | 133   | 221.60       | 3.40      | 532    | 4.01      | 2 038   | 294.12       |
| 95-96                                                                      | 466    | 109   | 233.52       | 3.23      | 412    | 3.78      | 1 506   | 309.60       |
| 96-97                                                                      | 357    | 88    | 246.26       | 3.06      | 313    | 3.56      | 1 094   | 326.80       |
| 97-98                                                                      | 269    | 70    | 259.90       | 2.89      | 234    | 3.35      | 781     | 346.02       |
| 98-99                                                                      | 199    | 54    | 274.52       | 2.73      | 172    | 3.14      | 547     | 366.30       |
| 99-100                                                                     | 145    | 42    | 290.23       | 2.58      | 124    | 2.95      | 375     | 387.60       |
| 100-101                                                                    | 103    | 32    | 307.11       | 2.42      | 87     | 2.76      | 251     | 413.22       |
| 101-102                                                                    | 71     | 23    | 325.33       | 2.28      | 60     | 2.57      | 164     | 438.60       |
| 102-103                                                                    | 48     | 17    | 345.02       | 2.14      | 40     | 2.40      | 104     | 467.29       |
| 103-104                                                                    | 31     | 11    | 366.37       | 2.00      | 26     | 2.23      | 64      | 500.00       |
| 104-105                                                                    | 20     | 8     | 389.57       | 1.86      | 16     | 2.07      | 38      | 537.63       |
| 105-106                                                                    | 12     | 5     | 414.90       | 1.73      | 10     | 1.91      | 22      | 578.03       |
| 106-107                                                                    | 7      | 3     | 442.64       | 1.60      | 6      | 1.76      | 12      | 625.00       |
| 107-108                                                                    | 4      | 2     | 473.19       | 1.48      | 3      | 1.61      | 6       | 675.68       |
| 108-109                                                                    | 2      | 1     | 507.03       | 1.36      | 2      | 1.47      | 3       | 735.29       |
| 109-110                                                                    | 1      | 1     | 544.80       | 1.24      | 1      | 1.34      | 1       | 806.45       |

TABLE 18

## LIFE TABLE FOR NEGRO FEMALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (239,814), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE<br>INTERVAL.                                                   | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|--------------------------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                                    |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages.                | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                                       | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                                  | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |
| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |                                                  |                                  |                                                                                               |                                                                                              |                                                                                                                                                                                                                |                                             |                                                                               |                                                                                                                 |
| Months.                                                            |                                                  |                                  | Monthly rate.                                                                                 | In years.                                                                                    |                                                                                                                                                                                                                | Per month.                                  |                                                                               | Annual rate.                                                                                                    |
| 0-1                                                                | 100 000                                          | 6 380                            | 63.80                                                                                         | 37.67                                                                                        | 7 935                                                                                                                                                                                                          | 14.88                                       | 3 766 879                                                                     | 26.55                                                                                                           |
| 1-2                                                                | 93 620                                           | 1 746                            | 18.66                                                                                         | 40.15                                                                                        | 7 729                                                                                                                                                                                                          | 53.16                                       | 3 758 944                                                                     | 24.91                                                                                                           |
| 2-3                                                                | 91 874                                           | 1 555                            | 16.93                                                                                         | 40.83                                                                                        | 7 591                                                                                                                                                                                                          | 58.56                                       | 3 751 215                                                                     | 24.49                                                                                                           |
| 3-4                                                                | 90 319                                           | 1 394                            | 15.44                                                                                         | 41.45                                                                                        | 7 468                                                                                                                                                                                                          | 64.32                                       | 3 743 624                                                                     | 24.13                                                                                                           |
| 4-5                                                                | 88 925                                           | 1 252                            | 14.08                                                                                         | 42.01                                                                                        | 7 358                                                                                                                                                                                                          | 70.56                                       | 3 736 156                                                                     | 23.80                                                                                                           |
| 5-6                                                                | 87 673                                           | 1 134                            | 12.94                                                                                         | 42.53                                                                                        | 7 259                                                                                                                                                                                                          | 76.80                                       | 3 728 798                                                                     | 23.51                                                                                                           |
| 6-7                                                                | 86 539                                           | 1 036                            | 11.96                                                                                         | 43.00                                                                                        | 7 168                                                                                                                                                                                                          | 83.04                                       | 3 721 539                                                                     | 23.26                                                                                                           |
| 7-8                                                                | 85 503                                           | 948                              | 11.09                                                                                         | 43.44                                                                                        | 7 086                                                                                                                                                                                                          | 89.64                                       | 3 714 371                                                                     | 23.02                                                                                                           |
| 8-9                                                                | 84 555                                           | 874                              | 10.34                                                                                         | 43.84                                                                                        | 7 010                                                                                                                                                                                                          | 96.24                                       | 3 707 285                                                                     | 22.81                                                                                                           |
| 9-10                                                               | 83 681                                           | 800                              | 9.56                                                                                          | 44.22                                                                                        | 6 940                                                                                                                                                                                                          | 104.16                                      | 3 700 275                                                                     | 22.61                                                                                                           |
| 10-11                                                              | 82 881                                           | 725                              | 8.75                                                                                          | 44.56                                                                                        | 6 877                                                                                                                                                                                                          | 113.88                                      | 3 693 335                                                                     | 22.44                                                                                                           |
| 11-12                                                              | 82 156                                           | 663                              | 8.07                                                                                          | 44.87                                                                                        | 6 819                                                                                                                                                                                                          | 123.48                                      | 3 686 458                                                                     | 22.29                                                                                                           |
| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.   |                                                  |                                  |                                                                                               |                                                                                              |                                                                                                                                                                                                                |                                             |                                                                               |                                                                                                                 |
| Years.                                                             |                                                  |                                  | Annual rate.                                                                                  | In years.                                                                                    |                                                                                                                                                                                                                | Per year.                                   |                                                                               | Annual rate.                                                                                                    |
| 0-1                                                                | 100 000                                          | 18 507                           | 185.07                                                                                        | 37.67                                                                                        | 87 240                                                                                                                                                                                                         | 4.71                                        | 3 766 879                                                                     | 26.55                                                                                                           |
| 1-2                                                                | 81 493                                           | 4 796                            | 58.84                                                                                         | 45.15                                                                                        | 78 661                                                                                                                                                                                                         | 16.40                                       | 3 679 639                                                                     | 22.15                                                                                                           |
| 2-3                                                                | 76 697                                           | 1 878                            | 24.50                                                                                         | 46.95                                                                                        | 75 702                                                                                                                                                                                                         | 40.31                                       | 3 600 975                                                                     | 21.30                                                                                                           |
| 3-4                                                                | 74 819                                           | 1 167                            | 15.85                                                                                         | 47.12                                                                                        | 74 202                                                                                                                                                                                                         | 62.51                                       | 3 525 273                                                                     | 21.22                                                                                                           |
| 4-5                                                                | 73 632                                           | 864                              | 11.74                                                                                         | 46.87                                                                                        | 73 183                                                                                                                                                                                                         | 84.70                                       | 3 451 071                                                                     | 21.34                                                                                                           |
| 5-6                                                                | 72 768                                           | 617                              | 8.47                                                                                          | 46.42                                                                                        | 72 459                                                                                                                                                                                                         | 117.44                                      | 3 377 888                                                                     | 21.54                                                                                                           |
| 6-7                                                                | 72 151                                           | 499                              | 6.92                                                                                          | 45.81                                                                                        | 71 902                                                                                                                                                                                                         | 144.09                                      | 3 305 429                                                                     | 21.83                                                                                                           |
| 7-8                                                                | 71 652                                           | 418                              | 5.84                                                                                          | 45.13                                                                                        | 71 443                                                                                                                                                                                                         | 170.92                                      | 3 233 527                                                                     | 22.16                                                                                                           |
| 8-9                                                                | 71 234                                           | 371                              | 5.21                                                                                          | 44.39                                                                                        | 71 018                                                                                                                                                                                                         | 191.50                                      | 3 162 084                                                                     | 22.53                                                                                                           |
| 9-10                                                               | 70 863                                           | 355                              | 5.01                                                                                          | 43.62                                                                                        | 70 685                                                                                                                                                                                                         | 199.11                                      | 3 091 036                                                                     | 22.93                                                                                                           |
| 10-11                                                              | 70 508                                           | 365                              | 5.18                                                                                          | 42.84                                                                                        | 70 325                                                                                                                                                                                                         | 192.67                                      | 3 020 351                                                                     | 23.34                                                                                                           |
| 11-12                                                              | 70 143                                           | 398                              | 5.67                                                                                          | 42.06                                                                                        | 69 944                                                                                                                                                                                                         | 175.74                                      | 2 950 026                                                                     | 23.78                                                                                                           |
| 12-13                                                              | 69 745                                           | 447                              | 6.41                                                                                          | 41.29                                                                                        | 69 521                                                                                                                                                                                                         | 155.53                                      | 2 880 082                                                                     | 24.22                                                                                                           |
| 13-14                                                              | 69 298                                           | 506                              | 7.31                                                                                          | 40.56                                                                                        | 69 045                                                                                                                                                                                                         | 136.45                                      | 2 810 561                                                                     | 24.65                                                                                                           |
| 14-15                                                              | 68 792                                           | 574                              | 8.34                                                                                          | 39.85                                                                                        | 68 505                                                                                                                                                                                                         | 119.35                                      | 2 741 516                                                                     | 25.09                                                                                                           |
| 15-16                                                              | 68 218                                           | 617                              | 9.49                                                                                          | 39.18                                                                                        | 67 894                                                                                                                                                                                                         | 104.94                                      | 2 673 011                                                                     | 25.52                                                                                                           |
| 16-17                                                              | 67 571                                           | 698                              | 10.32                                                                                         | 38.55                                                                                        | 67 222                                                                                                                                                                                                         | 96.31                                       | 2 605 117                                                                     | 25.94                                                                                                           |
| 17-18                                                              | 66 873                                           | 710                              | 10.62                                                                                         | 37.95                                                                                        | 66 518                                                                                                                                                                                                         | 93.69                                       | 2 537 895                                                                     | 26.35                                                                                                           |
| 18-19                                                              | 66 163                                           | 702                              | 10.61                                                                                         | 37.35                                                                                        | 65 812                                                                                                                                                                                                         | 93.75                                       | 2 471 377                                                                     | 26.77                                                                                                           |
| 19-20                                                              | 65 461                                           | 697                              | 10.66                                                                                         | 36.75                                                                                        | 65 112                                                                                                                                                                                                         | 93.42                                       | 2 405 565                                                                     | 27.21                                                                                                           |
| 20-21                                                              | 64 764                                           | 696                              | 10.74                                                                                         | 36.14                                                                                        | 64 416                                                                                                                                                                                                         | 92.55                                       | 2 340 453                                                                     | 27.67                                                                                                           |
| 21-22                                                              | 64 068                                           | 687                              | 10.71                                                                                         | 35.53                                                                                        | 63 725                                                                                                                                                                                                         | 92.76                                       | 2 276 037                                                                     | 28.15                                                                                                           |
| 22-23                                                              | 63 381                                           | 669                              | 10.56                                                                                         | 34.90                                                                                        | 63 047                                                                                                                                                                                                         | 91.24                                       | 2 212 312                                                                     | 28.65                                                                                                           |
| 23-24                                                              | 62 712                                           | 650                              | 10.36                                                                                         | 34.27                                                                                        | 62 387                                                                                                                                                                                                         | 95.98                                       | 2 149 265                                                                     | 29.18                                                                                                           |
| 24-25                                                              | 62 062                                           | 632                              | 10.19                                                                                         | 33.63                                                                                        | 61 746                                                                                                                                                                                                         | 97.70                                       | 2 086 878                                                                     | 29.74                                                                                                           |
| 25-26                                                              | 61 430                                           | 614                              | 9.99                                                                                          | 32.97                                                                                        | 61 123                                                                                                                                                                                                         | 99.55                                       | 2 025 132                                                                     | 30.33                                                                                                           |
| 26-27                                                              | 60 816                                           | 607                              | 9.98                                                                                          | 32.29                                                                                        | 60 513                                                                                                                                                                                                         | 99.69                                       | 1 964 009                                                                     | 30.97                                                                                                           |
| 27-28                                                              | 60 209                                           | 618                              | 10.26                                                                                         | 31.61                                                                                        | 59 900                                                                                                                                                                                                         | 96.93                                       | 1 903 496                                                                     | 31.64                                                                                                           |
| 28-29                                                              | 59 591                                           | 642                              | 10.77                                                                                         | 30.94                                                                                        | 59 270                                                                                                                                                                                                         | 92.32                                       | 1 843 596                                                                     | 32.32                                                                                                           |
| 29-30                                                              | 58 949                                           | 668                              | 11.33                                                                                         | 30.27                                                                                        | 58 615                                                                                                                                                                                                         | 87.75                                       | 1 784 326                                                                     | 33.04                                                                                                           |
| 30-31                                                              | 58 281                                           | 700                              | 12.02                                                                                         | 29.61                                                                                        | 57 931                                                                                                                                                                                                         | 82.76                                       | 1 725 711                                                                     | 33.77                                                                                                           |
| 31-32                                                              | 57 581                                           | 730                              | 12.68                                                                                         | 28.96                                                                                        | 57 216                                                                                                                                                                                                         | 78.38                                       | 1 667 780                                                                     | 34.53                                                                                                           |
| 32-33                                                              | 56 851                                           | 746                              | 13.12                                                                                         | 28.33                                                                                        | 56 478                                                                                                                                                                                                         | 75.71                                       | 1 610 564                                                                     | 35.30                                                                                                           |
| 33-34                                                              | 56 105                                           | 751                              | 13.39                                                                                         | 27.70                                                                                        | 55 729                                                                                                                                                                                                         | 74.21                                       | 1 554 086                                                                     | 36.10                                                                                                           |
| 34-35                                                              | 55 354                                           | 759                              | 13.72                                                                                         | 27.07                                                                                        | 54 974                                                                                                                                                                                                         | 72.43                                       | 1 498 357                                                                     | 36.94                                                                                                           |
| 35-36                                                              | 54 595                                           | 767                              | 14.05                                                                                         | 26.44                                                                                        | 54 211                                                                                                                                                                                                         | 70.68                                       | 1 443 383                                                                     | 37.82                                                                                                           |
| 36-37                                                              | 53 828                                           | 779                              | 14.47                                                                                         | 25.81                                                                                        | 53 439                                                                                                                                                                                                         | 68.60                                       | 1 389 172                                                                     | 38.74                                                                                                           |
| 37-38                                                              | 53 049                                           | 799                              | 15.07                                                                                         | 25.18                                                                                        | 52 649                                                                                                                                                                                                         | 65.89                                       | 1 335 733                                                                     | 39.71                                                                                                           |
| 38-39                                                              | 52 250                                           | 827                              | 15.83                                                                                         | 24.56                                                                                        | 51 836                                                                                                                                                                                                         | 62.68                                       | 1 283 084                                                                     | 40.72                                                                                                           |
| 39-40                                                              | 51 423                                           | 855                              | 16.62                                                                                         | 23.94                                                                                        | 50 995                                                                                                                                                                                                         | 59.64                                       | 1 231 248                                                                     | 41.77                                                                                                           |
| 40-41                                                              | 50 568                                           | 885                              | 17.50                                                                                         | 23.34                                                                                        | 50 126                                                                                                                                                                                                         | 56.64                                       | 1 180 253                                                                     | 42.84                                                                                                           |
| 41-42                                                              | 49 683                                           | 911                              | 18.33                                                                                         | 22.75                                                                                        | 49 228                                                                                                                                                                                                         | 51.04                                       | 1 130 127                                                                     | 43.96                                                                                                           |
| 42-43                                                              | 48 772                                           | 928                              | 19.03                                                                                         | 22.16                                                                                        | 48 308                                                                                                                                                                                                         | 52.06                                       | 1 080 899                                                                     | 45.13                                                                                                           |
| 43-44                                                              | 47 844                                           | 940                              | 19.65                                                                                         | 21.58                                                                                        | 47 374                                                                                                                                                                                                         | 50.40                                       | 1 032 591                                                                     | 46.34                                                                                                           |
| 44-45                                                              | 46 904                                           | 957                              | 20.39                                                                                         | 21.00                                                                                        | 46 426                                                                                                                                                                                                         | 48.51                                       | 985 217                                                                       | 47.62                                                                                                           |



## ORIGINAL REGISTRATION STATES: 1910.

## TABLE 18

REPORTED DEATHS IN 1909 (5,025), IN 1910 (5,481), AND IN 1911 (5,347).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE<br>INTERVAL.                                                           | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|----------------------------------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                                            |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages.                        | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                                               | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                                          | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |
| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |                                                  |                                  |                                                                                               |                                                                                              |                                                                                                                                                                                                                |                                             |                                                                               |                                                                                                                 |
| Years.                                                                     |                                                  |                                  | Annual rate.                                                                                  | In years.                                                                                    |                                                                                                                                                                                                                | Per year.                                   |                                                                               | Annual rate.                                                                                                    |
| 45-46                                                                      | 45 947                                           | 976                              | 21.25                                                                                         | 20.43                                                                                        | 45 459                                                                                                                                                                                                         | 46.58                                       | 938 791                                                                       | 48.95                                                                                                           |
| 46-47                                                                      | 44 971                                           | 998                              | 22.19                                                                                         | 19.86                                                                                        | 44 472                                                                                                                                                                                                         | 44.56                                       | 893 332                                                                       | 50.35                                                                                                           |
| 47-48                                                                      | 43 973                                           | 1 017                            | 23.13                                                                                         | 19.30                                                                                        | 43 465                                                                                                                                                                                                         | 42.71                                       | 848 860                                                                       | 51.81                                                                                                           |
| 48-49                                                                      | 42 956                                           | 1 030                            | 23.99                                                                                         | 18.75                                                                                        | 42 411                                                                                                                                                                                                         | 41.20                                       | 805 395                                                                       | 53.33                                                                                                           |
| 49-50                                                                      | 41 926                                           | 1 040                            | 24.80                                                                                         | 18.20                                                                                        | 41 406                                                                                                                                                                                                         | 39.81                                       | 762 954                                                                       | 54.95                                                                                                           |
| 50-51                                                                      | 40 886                                           | 1 044                            | 25.52                                                                                         | 17.65                                                                                        | 40 364                                                                                                                                                                                                         | 38.66                                       | 721 548                                                                       | 56.66                                                                                                           |
| 51-52                                                                      | 39 842                                           | 1 053                            | 26.43                                                                                         | 17.10                                                                                        | 39 316                                                                                                                                                                                                         | 37.34                                       | 681 184                                                                       | 58.48                                                                                                           |
| 52-53                                                                      | 38 789                                           | 1 079                            | 27.82                                                                                         | 16.55                                                                                        | 38 250                                                                                                                                                                                                         | 35.45                                       | 641 868                                                                       | 60.42                                                                                                           |
| 53-54                                                                      | 37 710                                           | 1 123                            | 29.78                                                                                         | 16.01                                                                                        | 37 149                                                                                                                                                                                                         | 33.08                                       | 603 618                                                                       | 62.46                                                                                                           |
| 54-55                                                                      | 36 587                                           | 1 172                            | 32.04                                                                                         | 15.48                                                                                        | 36 001                                                                                                                                                                                                         | 30.72                                       | 566 469                                                                       | 64.60                                                                                                           |
| 55-56                                                                      | 35 415                                           | 1 234                            | 31.85                                                                                         | 14.98                                                                                        | 34 798                                                                                                                                                                                                         | 28.20                                       | 530 468                                                                       | 66.76                                                                                                           |
| 56-57                                                                      | 34 181                                           | 1 291                            | 37.87                                                                                         | 14.50                                                                                        | 33 534                                                                                                                                                                                                         | 25.91                                       | 495 670                                                                       | 68.97                                                                                                           |
| 57-58                                                                      | 32 887                                           | 1 326                            | 40.30                                                                                         | 14.05                                                                                        | 32 224                                                                                                                                                                                                         | 24.30                                       | 462 136                                                                       | 71.17                                                                                                           |
| 58-59                                                                      | 31 561                                           | 1 326                            | 42.04                                                                                         | 13.62                                                                                        | 30 898                                                                                                                                                                                                         | 23.30                                       | 429 912                                                                       | 73.42                                                                                                           |
| 59-60                                                                      | 30 235                                           | 1 327                            | 43.88                                                                                         | 13.20                                                                                        | 29 571                                                                                                                                                                                                         | 22.28                                       | 399 014                                                                       | 75.76                                                                                                           |
| 60-61                                                                      | 28 908                                           | 1 318                            | 45.58                                                                                         | 12.78                                                                                        | 28 249                                                                                                                                                                                                         | 21.43                                       | 369 443                                                                       | 78.25                                                                                                           |
| 61-62                                                                      | 27 590                                           | 1 309                            | 47.46                                                                                         | 12.37                                                                                        | 26 936                                                                                                                                                                                                         | 20.58                                       | 341 194                                                                       | 80.84                                                                                                           |
| 62-63                                                                      | 26 281                                           | 1 313                            | 49.98                                                                                         | 11.96                                                                                        | 25 624                                                                                                                                                                                                         | 19.52                                       | 314 258                                                                       | 83.61                                                                                                           |
| 63-64                                                                      | 24 968                                           | 1 329                            | 53.19                                                                                         | 11.56                                                                                        | 24 303                                                                                                                                                                                                         | 18.29                                       | 288 634                                                                       | 86.51                                                                                                           |
| 64-65                                                                      | 23 639                                           | 1 337                            | 56.57                                                                                         | 11.18                                                                                        | 22 971                                                                                                                                                                                                         | 17.18                                       | 264 331                                                                       | 89.45                                                                                                           |
| 65-66                                                                      | 22 302                                           | 1 346                            | 60.37                                                                                         | 10.82                                                                                        | 21 629                                                                                                                                                                                                         | 16.07                                       | 241 360                                                                       | 92.42                                                                                                           |
| 66-67                                                                      | 20 956                                           | 1 340                            | 63.96                                                                                         | 10.49                                                                                        | 20 286                                                                                                                                                                                                         | 15.14                                       | 219 731                                                                       | 95.33                                                                                                           |
| 67-68                                                                      | 19 616                                           | 1 306                            | 66.54                                                                                         | 10.17                                                                                        | 18 963                                                                                                                                                                                                         | 14.52                                       | 199 445                                                                       | 98.33                                                                                                           |
| 68-69                                                                      | 18 310                                           | 1 248                            | 68.16                                                                                         | 9.86                                                                                         | 17 686                                                                                                                                                                                                         | 14.17                                       | 180 482                                                                       | 101.42                                                                                                          |
| 69-70                                                                      | 17 062                                           | 1 191                            | 69.83                                                                                         | 9.54                                                                                         | 16 467                                                                                                                                                                                                         | 13.83                                       | 162 796                                                                       | 104.82                                                                                                          |
| 70-71                                                                      | 15 871                                           | 1 131                            | 71.27                                                                                         | 9.22                                                                                         | 15 305                                                                                                                                                                                                         | 13.53                                       | 146 329                                                                       | 108.46                                                                                                          |
| 71-72                                                                      | 14 740                                           | 1 077                            | 73.03                                                                                         | 8.89                                                                                         | 14 202                                                                                                                                                                                                         | 13.19                                       | 131 024                                                                       | 112.49                                                                                                          |
| 72-73                                                                      | 13 663                                           | 1 034                            | 75.74                                                                                         | 8.55                                                                                         | 13 146                                                                                                                                                                                                         | 12.71                                       | 116 822                                                                       | 116.96                                                                                                          |
| 73-74                                                                      | 12 629                                           | 1 001                            | 79.45                                                                                         | 8.21                                                                                         | 12 127                                                                                                                                                                                                         | 12.08                                       | 103 676                                                                       | 121.80                                                                                                          |
| 74-75                                                                      | 11 625                                           | 968                              | 83.30                                                                                         | 7.88                                                                                         | 11 141                                                                                                                                                                                                         | 11.51                                       | 91 549                                                                        | 126.90                                                                                                          |
| 75-76                                                                      | 10 657                                           | 932                              | 87.47                                                                                         | 7.55                                                                                         | 10 191                                                                                                                                                                                                         | 10.93                                       | 80 408                                                                        | 132.45                                                                                                          |
| 76-77                                                                      | 9 725                                            | 900                              | 92.52                                                                                         | 7.22                                                                                         | 9 270                                                                                                                                                                                                          | 10.31                                       | 70 217                                                                        | 138.50                                                                                                          |
| 77-78                                                                      | 8 825                                            | 869                              | 98.44                                                                                         | 6.91                                                                                         | 8 391                                                                                                                                                                                                          | 9.66                                        | 60 942                                                                        | 144.72                                                                                                          |
| 78-79                                                                      | 7 956                                            | 834                              | 104.91                                                                                        | 6.61                                                                                         | 7 539                                                                                                                                                                                                          | 9.04                                        | 52 551                                                                        | 151.29                                                                                                          |
| 79-80                                                                      | 7 122                                            | 798                              | 111.96                                                                                        | 6.32                                                                                         | 6 723                                                                                                                                                                                                          | 8.42                                        | 45 012                                                                        | 158.23                                                                                                          |
| 80-81                                                                      | 6 324                                            | 757                              | 119.68                                                                                        | 6.05                                                                                         | 5 946                                                                                                                                                                                                          | 7.86                                        | 38 289                                                                        | 165.29                                                                                                          |
| 81-82                                                                      | 5 567                                            | 712                              | 128.03                                                                                        | 5.81                                                                                         | 5 211                                                                                                                                                                                                          | 7.31                                        | 32 343                                                                        | 172.12                                                                                                          |
| 82-83                                                                      | 4 855                                            | 665                              | 136.81                                                                                        | 5.59                                                                                         | 4 522                                                                                                                                                                                                          | 6.81                                        | 27 132                                                                        | 178.89                                                                                                          |
| 83-84                                                                      | 4 190                                            | 610                              | 145.64                                                                                        | 5.40                                                                                         | 3 885                                                                                                                                                                                                          | 6.37                                        | 22 610                                                                        | 185.19                                                                                                          |
| 84-85                                                                      | 3 580                                            | 551                              | 153.94                                                                                        | 5.23                                                                                         | 3 305                                                                                                                                                                                                          | 6.00                                        | 18 725                                                                        | 191.20                                                                                                          |
| 85-86                                                                      | 3 029                                            | 488                              | 161.05                                                                                        | 5.09                                                                                         | 2 785                                                                                                                                                                                                          | 5.71                                        | 15 420                                                                        | 196.46                                                                                                          |
| 86-87                                                                      | 2 541                                            | 423                              | 166.48                                                                                        | 4.97                                                                                         | 2 330                                                                                                                                                                                                          | 5.51                                        | 12 635                                                                        | 201.21                                                                                                          |
| 87-88                                                                      | 2 118                                            | 360                              | 169.98                                                                                        | 4.86                                                                                         | 1 938                                                                                                                                                                                                          | 5.38                                        | 10 305                                                                        | 205.76                                                                                                          |
| 88-89                                                                      | 1 758                                            | 302                              | 171.67                                                                                        | 4.76                                                                                         | 1 607                                                                                                                                                                                                          | 5.33                                        | 8 367                                                                         | 210.08                                                                                                          |
| 89-90                                                                      | 1 456                                            | 250                              | 172.13                                                                                        | 4.64                                                                                         | 1 331                                                                                                                                                                                                          | 5.31                                        | 6 760                                                                         | 215.52                                                                                                          |
| 90-91                                                                      | 1 206                                            | 208                              | 172.34                                                                                        | 4.50                                                                                         | 1 102                                                                                                                                                                                                          | 5.30                                        | 5 429                                                                         | 222.22                                                                                                          |
| 91-92                                                                      | 998                                              | 173                              | 173.52                                                                                        | 4.34                                                                                         | 911                                                                                                                                                                                                            | 5.26                                        | 4 327                                                                         | 230.41                                                                                                          |
| 92-93                                                                      | 825                                              | 146                              | 176.82                                                                                        | 4.14                                                                                         | 752                                                                                                                                                                                                            | 5.16                                        | 3 416                                                                         | 241.55                                                                                                          |
| 93-94                                                                      | 679                                              | 124                              | 183.14                                                                                        | 3.92                                                                                         | 617                                                                                                                                                                                                            | 4.96                                        | 2 664                                                                         | 255.10                                                                                                          |
| 94-95                                                                      | 555                                              | 107                              | 192.85                                                                                        | 3.69                                                                                         | 501                                                                                                                                                                                                            | 4.69                                        | 2 047                                                                         | 271.00                                                                                                          |
| 95-96                                                                      | 448                                              | 93                               | 205.91                                                                                        | 3.45                                                                                         | 402                                                                                                                                                                                                            | 4.36                                        | 1 516                                                                         | 289.86                                                                                                          |
| 96-97                                                                      | 355                                              | 78                               | 221.84                                                                                        | 3.22                                                                                         | 316                                                                                                                                                                                                            | 4.01                                        | 1 144                                                                         | 310.56                                                                                                          |
| 97-98                                                                      | 277                                              | 67                               | 240.02                                                                                        | 2.99                                                                                         | 243                                                                                                                                                                                                            | 3.67                                        | 828                                                                           | 334.45                                                                                                          |
| 98-99                                                                      | 210                                              | 54                               | 259.87                                                                                        | 2.78                                                                                         | 183                                                                                                                                                                                                            | 3.35                                        | 585                                                                           | 359.71                                                                                                          |
| 99-100                                                                     | 156                                              | 44                               | 281.03                                                                                        | 2.58                                                                                         | 134                                                                                                                                                                                                            | 3.06                                        | 402                                                                           | 387.60                                                                                                          |
| 100-101                                                                    | 112                                              | 34                               | 303.35                                                                                        | 2.39                                                                                         | 95                                                                                                                                                                                                             | 2.80                                        | 268                                                                           | 418.41                                                                                                          |
| 101-102                                                                    | 78                                               | 26                               | 326.96                                                                                        | 2.21                                                                                         | 65                                                                                                                                                                                                             | 2.56                                        | 173                                                                           | 452.49                                                                                                          |
| 102-103                                                                    | 52                                               | 18                               | 352.15                                                                                        | 2.05                                                                                         | 43                                                                                                                                                                                                             | 2.34                                        | 108                                                                           | 487.80                                                                                                          |
| 103-104                                                                    | 34                                               | 13                               | 379.35                                                                                        | 1.89                                                                                         | 28                                                                                                                                                                                                             | 2.14                                        | 65                                                                            | 529.10                                                                                                          |
| 104-105                                                                    | 21                                               | 9                                | 409.20                                                                                        | 1.73                                                                                         | 17                                                                                                                                                                                                             | 1.94                                        | 37                                                                            | 578.03                                                                                                          |
| 105-106                                                                    | 12                                               | 5                                | 441.90                                                                                        | 1.59                                                                                         | 10                                                                                                                                                                                                             | 1.76                                        | 20                                                                            | 628.93                                                                                                          |
| 106-107                                                                    | 7                                                | 3                                | 477.43                                                                                        | 1.45                                                                                         | 5                                                                                                                                                                                                              | 1.59                                        | 10                                                                            | 689.66                                                                                                          |
| 107-108                                                                    | 4                                                | 2                                | 516.06                                                                                        | 1.32                                                                                         | 3                                                                                                                                                                                                              | 1.44                                        | 5                                                                             | 757.58                                                                                                          |
| 108-109                                                                    | 2                                                | 1                                | 558.12                                                                                        | 1.20                                                                                         | 1                                                                                                                                                                                                              | 1.29                                        | 2                                                                             | 833.33                                                                                                          |
| 109-110                                                                    | 1                                                | 1                                | 604.00                                                                                        | 1.08                                                                                         | 1                                                                                                                                                                                                              | 1.16                                        | 1                                                                             | 925.93                                                                                                          |

TABLE 19

## LIFE TABLE FOR NATIVE WHITE MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (7,643,914), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE INTERVAL.                              | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                   | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                       | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            | 100 000 | 4 660 | Monthly rate. | In years. | 8 012 | Per month. | 4 894 699 | Annual rate. |
| 0-1                                                                | 100 000 | 4 660 | 46.60         | 48.95     | 8 012 | 20.76      | 4 894 699 | 20.43        |
| 1-2                                                                | 95 310  | 1 231 | 12.91         | 51.26     | 7 894 | 76.92      | 4 886 657 | 19.51        |
| 2-3                                                                | 94 109  | 1 127 | 11.97         | 51.84     | 7 795 | 83.01      | 4 878 763 | 19.29        |
| 3-4                                                                | 92 982  | 1 033 | 11.12         | 52.39     | 7 705 | 89.52      | 4 870 968 | 19.09        |
| 4-5                                                                | 91 949  | 944   | 10.26         | 52.89     | 7 623 | 96.96      | 4 863 263 | 18.91        |
| 5-6                                                                | 91 005  | 858   | 9.43          | 53.36     | 7 548 | 105.60     | 4 855 640 | 18.74        |
| 6-7                                                                | 90 147  | 777   | 8.62          | 53.78     | 7 480 | 115.56     | 4 848 092 | 18.59        |
| 7-8                                                                | 89 370  | 701   | 7.87          | 54.16     | 7 418 | 126.18     | 4 840 612 | 18.46        |
| 8-9                                                                | 88 666  | 637   | 7.19          | 54.51     | 7 362 | 138.72     | 4 833 194 | 18.35        |
| 9-10                                                               | 88 029  | 576   | 6.55          | 54.82     | 7 312 | 152.28     | 4 825 832 | 18.24        |
| 10-11                                                              | 87 453  | 523   | 5.98          | 55.10     | 7 266 | 166.68     | 4 818 520 | 18.15        |
| 11-12                                                              | 86 930  | 482   | 5.51          | 55.35     | 7 224 | 179.88     | 4 811 254 | 18.07        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           | 100 000 | 13 552 | Annual rate. | In years. | 90 669 | Per year. | 4 894 699 | Annual rate. |
| 0-1                                                              | 100 000 | 13 552 | 135.52       | 48.95     | 90 669 | 6.69      | 4 894 699 | 20.43        |
| 1-2                                                              | 86 448  | 2 983  | 34.51        | 55.57     | 84 688 | 28.39     | 4 804 030 | 18.00        |
| 2-3                                                              | 83 465  | 1 314  | 15.73        | 56.54     | 82 769 | 62.99     | 4 719 342 | 17.69        |
| 3-4                                                              | 82 151  | 826    | 10.05        | 56.44     | 81 722 | 98.94     | 4 636 573 | 17.72        |
| 4-5                                                              | 81 325  | 624    | 7.67         | 56.01     | 81 001 | 129.81    | 4 554 851 | 17.85        |
| 5-6                                                              | 80 701  | 481    | 5.96         | 55.44     | 80 461 | 167.28    | 4 473 850 | 18.04        |
| 6-7                                                              | 80 220  | 400    | 5.00         | 54.77     | 80 020 | 200.05    | 4 393 389 | 18.26        |
| 7-8                                                              | 79 820  | 333    | 4.19         | 54.04     | 79 652 | 237.77    | 4 313 369 | 18.50        |
| 8-9                                                              | 79 485  | 282    | 3.55         | 53.26     | 79 344 | 281.36    | 4 233 717 | 18.78        |
| 9-10                                                             | 79 203  | 243    | 3.07         | 52.45     | 79 081 | 325.44    | 4 154 373 | 19.07        |
| 10-11                                                            | 78 960  | 217    | 2.75         | 51.61     | 78 851 | 363.37    | 4 075 292 | 19.38        |
| 11-12                                                            | 78 743  | 205    | 2.59         | 50.75     | 78 611 | 383.61    | 4 006 441 | 19.70        |
| 12-13                                                            | 78 538  | 202    | 2.58         | 49.88     | 78 437 | 388.30    | 3 937 800 | 20.05        |
| 13-14                                                            | 78 336  | 212    | 2.71         | 49.01     | 78 230 | 369.01    | 3 869 363 | 20.40        |
| 14-15                                                            | 78 124  | 231    | 2.95         | 48.14     | 78 008 | 337.70    | 3 761 133 | 20.77        |
| 15-16                                                            | 77 893  | 257    | 3.30         | 47.28     | 77 765 | 302.59    | 3 683 125 | 21.15        |
| 16-17                                                            | 77 636  | 289    | 3.72         | 46.44     | 77 492 | 268.14    | 3 605 360 | 21.53        |
| 17-18                                                            | 77 347  | 325    | 4.20         | 45.61     | 77 185 | 237.49    | 3 527 868 | 21.93        |
| 18-19                                                            | 77 022  | 364    | 4.73         | 44.80     | 76 810 | 211.10    | 3 450 683 | 22.32        |
| 19-20                                                            | 76 658  | 408    | 5.32         | 44.01     | 76 451 | 187.39    | 3 373 843 | 22.72        |
| 20-21                                                            | 76 250  | 457    | 5.99         | 43.24     | 76 022 | 166.35    | 3 297 389 | 23.13        |
| 21-22                                                            | 75 793  | 495    | 6.54         | 42.50     | 75 546 | 152.62    | 3 221 367 | 23.53        |
| 22-23                                                            | 75 298  | 515    | 6.84         | 41.78     | 75 040 | 145.71    | 3 145 821 | 23.93        |
| 23-24                                                            | 74 763  | 522    | 6.97         | 41.06     | 74 522 | 142.76    | 3 070 781 | 24.35        |
| 24-25                                                            | 74 261  | 528    | 7.12         | 40.35     | 73 997 | 140.15    | 2 996 259 | 24.78        |
| 25-26                                                            | 73 733  | 534    | 7.24         | 39.63     | 73 466 | 137.58    | 2 922 262 | 25.23        |
| 26-27                                                            | 73 199  | 510    | 7.38         | 38.92     | 72 929 | 135.05    | 2 848 796 | 25.69        |
| 27-28                                                            | 72 659  | 551    | 7.59         | 38.20     | 72 383 | 131.37    | 2 775 867 | 26.18        |
| 28-29                                                            | 72 108  | 566    | 7.85         | 37.49     | 71 825 | 126.90    | 2 703 484 | 26.67        |
| 29-30                                                            | 71 542  | 579    | 8.09         | 36.78     | 71 252 | 123.06    | 2 631 659 | 27.19        |
| 30-31                                                            | 70 963  | 591    | 8.33         | 36.06     | 70 668 | 119.57    | 2 560 407 | 27.72        |
| 31-32                                                            | 70 372  | 600    | 8.53         | 35.38     | 70 072 | 116.79    | 2 489 739 | 28.26        |
| 32-33                                                            | 69 772  | 606    | 8.69         | 34.68     | 69 469 | 114.64    | 2 419 667 | 28.84        |
| 33-34                                                            | 69 166  | 609    | 8.80         | 33.98     | 68 861 | 113.07    | 2 350 198 | 29.43        |
| 34-35                                                            | 68 557  | 611    | 8.92         | 33.28     | 68 251 | 111.70    | 2 281 337 | 30.05        |
| 35-36                                                            | 67 946  | 614    | 9.03         | 32.57     | 67 639 | 110.16    | 2 213 086 | 30.70        |
| 36-37                                                            | 67 332  | 618    | 9.17         | 31.86     | 67 023 | 108.45    | 2 145 147 | 31.39        |
| 37-38                                                            | 66 714  | 622    | 9.33         | 31.15     | 66 403 | 106.76    | 2 078 124 | 32.10        |
| 38-39                                                            | 66 092  | 629    | 9.52         | 30.44     | 65 777 | 104.57    | 2 012 021 | 32.85        |
| 39-40                                                            | 65 463  | 635    | 9.69         | 29.73     | 65 146 | 102.59    | 1 946 244 | 33.64        |
| 40-41                                                            | 64 828  | 639    | 9.87         | 29.02     | 64 509 | 100.95    | 1 881 098 | 34.46        |
| 41-42                                                            | 64 189  | 646    | 10.07        | 28.30     | 63 866 | 98.86     | 1 816 589 | 35.34        |
| 42-43                                                            | 63 543  | 656    | 10.32        | 27.58     | 63 215 | 96.36     | 1 752 723 | 36.26        |
| 43-44                                                            | 62 887  | 668    | 10.63        | 26.87     | 62 553 | 93.61     | 1 689 508 | 37.22        |
| 44-45                                                            | 62 219  | 683    | 10.97        | 26.15     | 61 877 | 90.60     | 1 626 955 | 38.24        |

## THE ORIGINAL REGISTRATION STATES: 1901.

## TABLE 19

REPORTED DEATHS IN 1900 (129,797), IN 1901 (124,250), AND IN 1902 (120,134).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE<br>INTERVAL.                                    | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 61 536 | 700   | 11.38        | 25.43     | 61 186 | 87.41     | 1 565 078 | 39.32        |
| 46-47                                                                      | 60 836 | 718   | 11.80        | 24.72     | 60 477 | 81.23     | 1 503 892 | 40.45        |
| 47-48                                                                      | 60 118 | 731   | 12.16        | 24.01     | 59 752 | 81.74     | 1 443 415 | 41.65        |
| 48-49                                                                      | 59 387 | 742   | 12.49        | 23.30     | 59 016 | 79.54     | 1 383 663 | 42.92        |
| 49-50                                                                      | 58 645 | 754   | 12.86        | 22.59     | 58 268 | 77.28     | 1 324 647 | 44.27        |
| 50-51                                                                      | 57 891 | 768   | 13.27        | 21.88     | 57 507 | 74.88     | 1 266 379 | 45.70        |
| 51-52                                                                      | 57 123 | 787   | 13.78        | 21.16     | 56 729 | 72.08     | 1 208 872 | 47.26        |
| 52-53                                                                      | 56 336 | 816   | 14.47        | 20.45     | 55 928 | 68.54     | 1 152 143 | 48.90        |
| 53-54                                                                      | 55 520 | 851   | 15.33        | 19.74     | 55 095 | 64.74     | 1 096 215 | 50.66        |
| 54-55                                                                      | 54 669 | 891   | 16.29        | 19.04     | 54 224 | 60.86     | 1 041 120 | 52.52        |
| 55-56                                                                      | 53 778 | 935   | 17.39        | 18.35     | 53 311 | 57.02     | 986 896   | 54.50        |
| 56-57                                                                      | 52 843 | 982   | 18.59        | 17.67     | 52 352 | 53.31     | 933 585   | 56.59        |
| 57-58                                                                      | 51 861 | 1 029 | 19.83        | 16.99     | 51 346 | 49.90     | 881 233   | 58.86        |
| 58-59                                                                      | 50 832 | 1 073 | 21.12        | 16.33     | 50 295 | 46.87     | 829 887   | 61.24        |
| 59-60                                                                      | 49 759 | 1 123 | 22.55        | 15.67     | 49 197 | 43.81     | 779 592   | 63.82        |
| 60-61                                                                      | 48 636 | 1 171 | 24.09        | 15.02     | 48 051 | 41.03     | 730 395   | 66.58        |
| 61-62                                                                      | 47 465 | 1 230 | 25.90        | 14.38     | 46 850 | 38.09     | 682 344   | 69.54        |
| 62-63                                                                      | 46 235 | 1 301 | 28.14        | 13.74     | 45 585 | 35.04     | 635 494   | 72.78        |
| 63-64                                                                      | 44 934 | 1 382 | 30.76        | 13.13     | 44 243 | 32.01     | 589 909   | 76.16        |
| 64-65                                                                      | 43 552 | 1 462 | 33.57        | 12.53     | 42 821 | 29.29     | 545 666   | 79.81        |
| 65-66                                                                      | 42 090 | 1 541 | 36.62        | 11.95     | 41 319 | 26.81     | 502 845   | 83.68        |
| 66-67                                                                      | 40 549 | 1 616 | 39.84        | 11.38     | 39 741 | 24.59     | 461 526   | 87.87        |
| 67-68                                                                      | 38 933 | 1 681 | 43.17        | 10.83     | 38 093 | 22.66     | 421 785   | 92.34        |
| 68-69                                                                      | 37 252 | 1 739 | 46.70        | 10.30     | 36 382 | 20.92     | 383 692   | 97.09        |
| 69-70                                                                      | 35 513 | 1 796 | 50.57        | 9.78      | 34 615 | 19.27     | 347 310   | 102.25       |
| 70-71                                                                      | 33 717 | 1 847 | 54.78        | 9.27      | 32 793 | 17.75     | 312 695   | 107.87       |
| 71-72                                                                      | 31 870 | 1 896 | 59.49        | 8.78      | 30 922 | 16.31     | 279 902   | 113.90       |
| 72-73                                                                      | 29 974 | 1 943 | 64.82        | 8.31      | 29 002 | 14.93     | 248 980   | 120.34       |
| 73-74                                                                      | 28 031 | 1 977 | 70.54        | 7.85      | 27 042 | 13.68     | 219 978   | 127.39       |
| 74-75                                                                      | 26 054 | 2 004 | 76.89        | 7.41      | 25 052 | 12.50     | 192 936   | 134.95       |
| 75-76                                                                      | 24 050 | 2 018 | 83.94        | 6.98      | 23 041 | 11.42     | 167 884   | 143.27       |
| 76-77                                                                      | 22 032 | 2 022 | 91.77        | 6.57      | 21 021 | 10.40     | 144 843   | 152.21       |
| 77-78                                                                      | 20 010 | 2 009 | 100.39       | 6.19      | 19 005 | 9.46      | 123 822   | 161.55       |
| 78-79                                                                      | 18 001 | 1 975 | 109.74       | 5.82      | 17 013 | 8.61      | 104 817   | 171.82       |
| 79-80                                                                      | 16 026 | 1 920 | 119.76       | 5.48      | 15 066 | 7.85      | 87 804    | 182.48       |
| 80-81                                                                      | 14 106 | 1 838 | 130.34       | 5.16      | 13 187 | 7.17      | 72 738    | 193.80       |
| 81-82                                                                      | 12 268 | 1 735 | 141.40       | 4.85      | 11 400 | 6.57      | 59 551    | 206.19       |
| 82-83                                                                      | 10 533 | 1 611 | 152.90       | 4.57      | 9 728  | 6.04      | 48 151    | 218.82       |
| 83-84                                                                      | 8 922  | 1 470 | 164.84       | 4.31      | 8 187  | 5.77      | 38 423    | 232.02       |
| 84-85                                                                      | 7 452  | 1 321 | 177.25       | 4.06      | 6 791  | 5.14      | 30 236    | 246.31       |
| 85-86                                                                      | 6 131  | 1 166 | 190.18       | 3.82      | 5 518  | 4.76      | 23 443    | 261.78       |
| 86-87                                                                      | 4 965  | 1 011 | 203.66       | 3.60      | 4 459  | 4.41      | 17 897    | 277.78       |
| 87-88                                                                      | 3 954  | 861   | 217.72       | 3.40      | 3 523  | 4.09      | 13 138    | 294.12       |
| 88-89                                                                      | 3 093  | 719   | 232.30       | 3.21      | 2 734  | 3.80      | 9 915     | 311.53       |
| 89-90                                                                      | 2 374  | 587   | 247.38       | 3.02      | 2 081  | 3.54      | 7 181     | 331.13       |
| 90-91                                                                      | 1 787  | 470   | 262.90       | 2.85      | 1 552  | 3.30      | 5 100     | 350.88       |
| 91-92                                                                      | 1 317  | 367   | 278.89       | 2.69      | 1 134  | 3.09      | 3 548     | 371.75       |
| 92-93                                                                      | 950    | 281   | 295.32       | 2.54      | 810    | 2.89      | 2 414     | 393.70       |
| 93-94                                                                      | 669    | 209   | 312.32       | 2.40      | 565    | 2.70      | 1 604     | 416.67       |
| 94-95                                                                      | 460    | 152   | 330.26       | 2.26      | 384    | 2.53      | 1 039     | 442.48       |
| 95-96                                                                      | 308    | 107   | 349.17       | 2.13      | 254    | 2.36      | 655       | 469.48       |
| 96-97                                                                      | 201    | 74    | 369.10       | 2.00      | 164    | 2.21      | 401       | 500.00       |
| 97-98                                                                      | 127    | 50    | 390.11       | 1.88      | 103    | 2.06      | 237       | 531.91       |
| 98-99                                                                      | 77     | 32    | 412.24       | 1.77      | 61     | 1.93      | 135       | 564.97       |
| 99-100                                                                     | 45     | 19    | 435.55       | 1.66      | 35     | 1.80      | 74        | 602.41       |
| 100-101                                                                    | 26     | 12    | 460.09       | 1.56      | 20     | 1.67      | 39        | 641.03       |
| 101-102                                                                    | 14     | 7     | 485.90       | 1.46      | 10     | 1.56      | 19        | 684.93       |
| 102-103                                                                    | 7      | 4     | 513.05       | 1.36      | 5      | 1.45      | 9         | 735.29       |
| 103-104                                                                    | 3      | 1     | 541.59       | 1.27      | 3      | 1.35      | 4         | 787.40       |
| 104-105                                                                    | 2      | 1     | 571.58       | 1.19      | 1      | 1.25      | 1         | 840.34       |
| 105-106                                                                    | 1      | 1     | 603.05       | 1.11      | .....  | 1.16      | .....     | 900.90       |

TABLE 20

## LIFE TABLE FOR NATIVE WHITE MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (8,753,112), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE<br>INTERVAL.                                    | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            | 100 000 | 4 975 | Monthly rate. | In years. | 8 022 | Per month. | 5 058 272 | Annual rate. |
| 0-1                                                                | 95 025  | 1 274 | 13.41         | 53.15     | 7 866 | 71.01      | 5 050 250 | 18.81        |
| 1-2                                                                | 93 751  | 1 031 | 10.99         | 53.78     | 7 770 | 90.48      | 5 012 381 | 18.59        |
| 2-3                                                                | 92 720  | 878   | 9.48          | 51.30     | 7 690 | 105.12     | 5 034 611 | 18.42        |
| 3-4                                                                | 91 812  | 766   | 8.34          | 51.73     | 7 622 | 119.10     | 5 026 924 | 18.27        |
| 4-5                                                                | 91 076  | 679   | 7.45          | 55.11     | 7 561 | 133.68     | 5 019 302 | 18.15        |
| 6-7                                                                | 90 397  | 618   | 6.84          | 55.44     | 7 507 | 145.80     | 5 011 741 | 18.04        |
| 7-8                                                                | 89 779  | 563   | 6.27          | 55.71     | 7 458 | 159.00     | 5 004 234 | 17.91        |
| 8-9                                                                | 89 216  | 513   | 5.75          | 56.01     | 7 413 | 173.40     | 4 996 776 | 17.85        |
| 9-10                                                               | 88 703  | 468   | 5.27          | 56.25     | 7 372 | 189.00     | 4 989 363 | 17.78        |
| 10-11                                                              | 88 235  | 431   | 4.88          | 56.46     | 7 335 | 204.24     | 4 981 991 | 17.71        |
| 11-12                                                              | 87 804  | 406   | 4.63          | 56.66     | 7 300 | 215.76     | 4 974 656 | 17.65        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           | 100 000 | 12 602 | Annual rate. | In years. | 90 916 | Per year. | 5 058 272 | Annual rate. |
| 0-1                                                              | 87 398  | 2 183  | 28.41        | 56.81     | 85 933 | 34.61     | 4 967 356 | 17.59        |
| 1-2                                                              | 84 915  | 1 075  | 12.66        | 57.49     | 81 315 | 78.46     | 4 881 423 | 17.39        |
| 2-3                                                              | 83 810  | 655    | 7.81         | 57.22     | 83 500 | 127.48    | 4 797 078 | 17.48        |
| 3-4                                                              | 83 185  | 463    | 5.57         | 56.66     | 82 945 | 179.15    | 4 713 578 | 17.65        |
| 5-6                                                              | 82 722  | 385    | 4.66         | 55.98     | 82 530 | 214.36    | 4 630 633 | 17.86        |
| 6-7                                                              | 82 337  | 326    | 3.96         | 55.24     | 82 174 | 252.07    | 4 548 103 | 18.10        |
| 7-8                                                              | 82 011  | 277    | 3.38         | 54.46     | 81 873 | 295.57    | 4 465 929 | 18.36        |
| 8-9                                                              | 81 734  | 238    | 2.91         | 53.61     | 81 615 | 342.92    | 4 384 056 | 18.64        |
| 9-10                                                             | 81 496  | 210    | 2.58         | 52.79     | 81 391 | 387.58    | 4 302 441 | 18.94        |
| 10-11                                                            | 81 286  | 192    | 2.37         | 51.93     | 81 190 | 422.86    | 4 221 050 | 19.26        |
| 11-12                                                            | 81 091  | 185    | 2.28         | 51.05     | 81 001 | 437.84    | 4 139 860 | 19.59        |
| 12-13                                                            | 80 909  | 185    | 2.29         | 50.17     | 80 817 | 436.85    | 4 058 859 | 19.93        |
| 13-14                                                            | 80 724  | 193    | 2.40         | 49.28     | 80 627 | 417.76    | 3 978 042 | 20.29        |
| 14-15                                                            | 80 531  | 208    | 2.58         | 48.40     | 80 427 | 386.67    | 3 897 415 | 20.66        |
| 15-16                                                            | 80 323  | 227    | 2.82         | 47.52     | 80 210 | 353.35    | 3 816 988 | 21.04        |
| 16-17                                                            | 80 096  | 250    | 3.12         | 46.65     | 79 971 | 319.88    | 3 736 778 | 21.44        |
| 17-18                                                            | 79 846  | 276    | 3.46         | 45.80     | 79 708 | 288.80    | 3 656 807 | 21.83        |
| 18-19                                                            | 79 570  | 307    | 3.85         | 44.96     | 79 417 | 258.69    | 3 577 099 | 22.24        |
| 19-20                                                            | 79 263  | 340    | 4.30         | 44.13     | 79 093 | 232.63    | 3 497 682 | 22.66        |
| 20-21                                                            | 78 923  | 380    | 4.82         | 43.32     | 78 733 | 207.19    | 3 418 569 | 23.08        |
| 21-22                                                            | 78 513  | 413    | 5.25         | 42.52     | 78 337 | 189.68    | 3 339 856 | 23.52        |
| 22-23                                                            | 78 130  | 428    | 5.48         | 41.71     | 77 916 | 182.05    | 3 261 519 | 23.96        |
| 23-24                                                            | 77 702  | 433    | 5.58         | 40.97     | 77 485 | 178.95    | 3 183 603 | 24.41        |
| 24-25                                                            | 77 269  | 441    | 5.71         | 40.20     | 77 048 | 174.71    | 3 106 118 | 24.88        |
| 25-26                                                            | 76 828  | 448    | 5.83         | 39.43     | 76 604 | 170.99    | 3 029 070 | 25.36        |
| 26-27                                                            | 76 380  | 458    | 5.99         | 38.65     | 76 151 | 166.27    | 2 952 466 | 25.87        |
| 27-28                                                            | 75 922  | 473    | 6.23         | 37.89     | 75 685 | 160.01    | 2 876 315 | 26.39        |
| 28-29                                                            | 75 449  | 491    | 6.51         | 37.12     | 75 202 | 152.23    | 2 800 630 | 26.94        |
| 29-30                                                            | 74 955  | 513    | 6.84         | 36.36     | 74 699 | 145.61    | 2 725 428 | 27.50        |
| 30-31                                                            | 74 442  | 531    | 7.14         | 35.61     | 74 177 | 139.69    | 2 650 729 | 28.08        |
| 31-32                                                            | 73 911  | 552    | 7.46         | 34.86     | 73 635 | 133.40    | 2 576 552 | 28.69        |
| 32-33                                                            | 73 359  | 572    | 7.80         | 34.12     | 73 073 | 127.75    | 2 502 917 | 29.31        |
| 33-34                                                            | 72 787  | 592    | 8.14         | 33.38     | 72 491 | 122.45    | 2 429 844 | 29.96        |
| 34-35                                                            | 72 195  | 611    | 8.46         | 32.65     | 71 889 | 117.66    | 2 357 353 | 30.63        |
| 35-36                                                            | 71 584  | 628    | 8.78         | 31.93     | 71 270 | 113.49    | 2 285 464 | 31.32        |
| 36-37                                                            | 70 956  | 643    | 9.06         | 31.21     | 70 634 | 109.85    | 2 214 194 | 32.04        |
| 37-38                                                            | 70 313  | 654    | 9.30         | 30.49     | 69 986 | 107.01    | 2 143 560 | 32.80        |
| 38-39                                                            | 69 659  | 663    | 9.52         | 29.77     | 69 328 | 104.57    | 2 073 574 | 33.59        |
| 39-40                                                            | 68 996  | 674    | 9.77         | 29.05     | 68 659 | 101.87    | 2 004 246 | 34.42        |
| 40-41                                                            | 68 322  | 685    | 10.02        | 28.33     | 67 980 | 99.24     | 1 935 587 | 35.30        |
| 41-42                                                            | 67 637  | 696    | 10.29        | 27.61     | 67 289 | 96.68     | 1 867 607 | 36.22        |
| 42-43                                                            | 66 941  | 708    | 10.58        | 26.89     | 66 587 | 94.05     | 1 800 318 | 37.19        |
| 43-44                                                            | 66 233  | 722    | 10.90        | 26.18     | 65 872 | 91.24     | 1 733 731 | 38.20        |
| 44-45                                                            | 65 511  | 738    | 11.27        | 25.46     | 65 142 | 88.27     | 1 667 859 | 39.28        |

## THE ORIGINAL REGISTRATION STATES: 1910.

## TABLE 20

REPORTED DEATHS IN 1909 (132,091), IN 1910 (140,845), AND IN 1911 (135,722).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE<br>INTERVAL.                                    | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 15-16                                                                      | 64 773 | 757   | 11.68        | 24.74     | 64 395 | 85.07     | 1 602 717 | 40.42        |
| 16-17                                                                      | 61 016 | 778   | 12.16        | 24.03     | 63 627 | 81.78     | 1 538 322 | 41.61        |
| 17-18                                                                      | 63 238 | 801   | 12.67        | 23.32     | 62 837 | 78.45     | 1 474 695 | 42.88        |
| 18-19                                                                      | 62 437 | 823   | 13.17        | 22.61     | 62 026 | 75.37     | 1 411 858 | 44.23        |
| 19-20                                                                      | 61 614 | 842   | 13.68        | 21.91     | 61 193 | 72.68     | 1 349 832 | 45.64        |
| 20-21                                                                      | 60 772 | 861   | 14.17        | 21.20     | 60 341 | 70.08     | 1 288 639 | 47.17        |
| 21-22                                                                      | 59 911 | 885   | 14.77        | 20.50     | 59 468 | 67.20     | 1 228 298 | 48.78        |
| 22-23                                                                      | 59 026 | 922   | 15.62        | 19.80     | 58 565 | 63.52     | 1 168 830 | 50.51        |
| 23-24                                                                      | 58 104 | 972   | 16.73        | 19.11     | 57 618 | 59.28     | 1 110 265 | 52.33        |
| 24-25                                                                      | 57 132 | 1 027 | 17.98        | 18.42     | 56 618 | 55.13     | 1 052 617 | 54.29        |
| 25-26                                                                      | 56 105 | 1 092 | 19.47        | 17.75     | 55 559 | 50.88     | 996 029   | 56.34        |
| 26-27                                                                      | 55 013 | 1 157 | 21.03        | 17.10     | 54 434 | 47.05     | 940 470   | 58.48        |
| 27-28                                                                      | 53 856 | 1 211 | 22.49        | 16.45     | 53 250 | 43.97     | 886 036   | 60.79        |
| 28-29                                                                      | 52 645 | 1 257 | 23.86        | 15.82     | 52 016 | 41.38     | 832 786   | 63.21        |
| 29-30                                                                      | 51 388 | 1 307 | 25.45        | 15.19     | 50 735 | 38.82     | 780 770   | 65.83        |
| 30-31                                                                      | 50 081 | 1 363 | 27.21        | 14.58     | 49 400 | 36.24     | 730 035   | 68.59        |
| 31-32                                                                      | 48 718 | 1 422 | 29.19        | 13.97     | 48 007 | 33.76     | 680 635   | 71.58        |
| 32-33                                                                      | 47 296 | 1 488 | 31.47        | 13.38     | 46 552 | 31.28     | 632 628   | 74.74        |
| 33-34                                                                      | 45 808 | 1 557 | 33.99        | 12.79     | 45 029 | 28.92     | 586 076   | 78.19        |
| 34-35                                                                      | 44 251 | 1 621 | 36.62        | 12.23     | 43 441 | 26.80     | 541 017   | 81.77        |
| 35-36                                                                      | 42 630 | 1 678 | 39.38        | 11.67     | 41 791 | 24.91     | 497 606   | 85.69        |
| 36-37                                                                      | 40 952 | 1 735 | 42.35        | 11.13     | 40 084 | 23.10     | 455 815   | 89.85        |
| 37-38                                                                      | 39 217 | 1 789 | 45.63        | 10.60     | 38 322 | 21.42     | 415 731   | 94.34        |
| 38-39                                                                      | 37 428 | 1 844 | 49.26        | 10.08     | 36 506 | 19.80     | 377 409   | 99.21        |
| 39-40                                                                      | 35 581 | 1 890 | 53.12        | 9.58      | 34 639 | 18.33     | 340 903   | 104.38       |
| 40-41                                                                      | 33 691 | 1 928 | 57.20        | 9.09      | 32 730 | 16.98     | 306 264   | 110.01       |
| 41-42                                                                      | 31 766 | 1 964 | 61.84        | 8.61      | 30 784 | 15.67     | 273 531   | 116.14       |
| 42-43                                                                      | 29 802 | 2 007 | 67.33        | 8.15      | 28 799 | 14.35     | 242 750   | 122.70       |
| 43-44                                                                      | 27 795 | 2 047 | 73.67        | 7.70      | 26 772 | 13.08     | 213 951   | 129.87       |
| 44-45                                                                      | 25 748 | 2 079 | 80.72        | 7.27      | 24 709 | 11.89     | 187 179   | 137.53       |
| 45-46                                                                      | 23 669 | 2 102 | 88.83        | 6.86      | 22 618 | 10.76     | 162 470   | 145.77       |
| 46-47                                                                      | 21 567 | 2 096 | 97.18        | 6.48      | 20 519 | 9.79      | 139 852   | 154.32       |
| 47-48                                                                      | 19 471 | 2 016 | 105.09       | 6.13      | 18 448 | 9.02      | 119 333   | 163.13       |
| 48-49                                                                      | 17 425 | 1 966 | 112.83       | 5.79      | 16 442 | 8.36      | 100 885   | 172.71       |
| 49-50                                                                      | 15 439 | 1 884 | 121.84       | 5.46      | 14 517 | 7.71      | 84 443    | 183.15       |
| 50-51                                                                      | 13 575 | 1 797 | 132.43       | 5.15      | 12 676 | 7.05      | 69 926    | 194.17       |
| 51-52                                                                      | 11 778 | 1 694 | 143.82       | 4.86      | 10 931 | 6.45      | 57 250    | 205.76       |
| 52-53                                                                      | 10 084 | 1 564 | 155.08       | 4.59      | 9 302  | 5.95      | 46 319    | 217.86       |
| 53-54                                                                      | 8 520  | 1 415 | 166.10       | 4.34      | 7 812  | 5.52      | 37 017    | 230.41       |
| 54-55                                                                      | 7 105  | 1 264 | 177.88       | 4.11      | 6 473  | 5.12      | 29 205    | 243.31       |
| 55-56                                                                      | 5 841  | 1 109 | 189.87       | 3.89      | 5 287  | 4.77      | 22 732    | 257.07       |
| 56-57                                                                      | 4 732  | 956   | 202.04       | 3.69      | 4 254  | 4.45      | 17 415    | 271.00       |
| 57-58                                                                      | 3 776  | 810   | 214.39       | 3.49      | 3 371  | 4.16      | 13 191    | 286.53       |
| 58-59                                                                      | 2 966  | 673   | 227.01       | 3.31      | 2 630  | 3.91      | 9 820     | 302.11       |
| 59-60                                                                      | 2 293  | 550   | 239.98       | 3.14      | 2 018  | 3.67      | 7 190     | 318.47       |
| 60-61                                                                      | 1 743  | 442   | 253.33       | 2.97      | 1 522  | 3.45      | 5 172     | 336.70       |
| 61-62                                                                      | 1 301  | 347   | 267.12       | 2.81      | 1 127  | 3.24      | 3 650     | 355.87       |
| 62-63                                                                      | 951    | 269   | 281.56       | 2.65      | 819    | 3.05      | 2 523     | 377.36       |
| 63-64                                                                      | 685    | 203   | 297.06       | 2.49      | 583    | 2.87      | 1 704     | 401.61       |
| 64-65                                                                      | 482    | 152   | 314.28       | 2.33      | 406    | 2.68      | 1 121     | 429.18       |
| 65-66                                                                      | 330    | 110   | 334.13       | 2.16      | 275    | 2.49      | 715       | 462.96       |
| 66-67                                                                      | 220    | 79    | 357.67       | 2.00      | 181    | 2.30      | 440       | 500.00       |
| 67-68                                                                      | 141    | 54    | 385.87       | 1.83      | 114    | 2.09      | 259       | 546.45       |
| 68-69                                                                      | 87     | 37    | 419.32       | 1.66      | 69     | 1.88      | 145       | 602.11       |
| 69-70                                                                      | 50     | 23    | 458.11       | 1.51      | 39     | 1.68      | 76        | 662.25       |
| 70-71                                                                      | 27     | 13    | 501.78       | 1.36      | 20     | 1.49      | 37        | 735.29       |
| 71-72                                                                      | 14     | 8     | 549.32       | 1.22      | 10     | 1.32      | 17        | 819.67       |
| 72-73                                                                      | 6      | 4     | 599.32       | 1.10      | 4      | 1.17      | 7         | 909.09       |
| 73-74                                                                      | 2      | 1     | 650.20       | .99       | 2      | 1.04      | 3         |              |
| 74-75                                                                      | 1      | 1     | 700.48       | .89       | 1      | .93       | 1         |              |

## UNITED STATES LIFE TABLES.

TABLE 21

## LIFE TABLE FOR NATIVE WHITE FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (7,715,692), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            |         |       | Monthly rate. | In years. |       | Per month. |           | Annual rate. |
| 0-1                                                                | 100 000 | 3 578 | 35.78         | 51.93     | 8 110 | 27.24      | 5 192 843 | 19.26        |
| 1-2                                                                | 96 422  | 1 013 | 10.51         | 53.77     | 7 993 | 94.68      | 5 184 733 | 18.60        |
| 2-3                                                                | 95 409  | 939   | 9.84          | 54.26     | 7 912 | 101.16     | 5 176 740 | 18.43        |
| 3-4                                                                | 94 470  | 872   | 9.23          | 54.71     | 7 836 | 107.88     | 5 168 828 | 18.28        |
| 4-5                                                                | 93 598  | 805   | 8.61          | 55.14     | 7 766 | 115.80     | 5 160 992 | 18.14        |
| 5-6                                                                | 92 793  | 741   | 7.99          | 55.53     | 7 702 | 124.68     | 5 153 226 | 18.01        |
| 6-7                                                                | 92 052  | 677   | 7.35          | 55.90     | 7 643 | 135.48     | 5 145 524 | 17.89        |
| 7-8                                                                | 91 375  | 616   | 6.74          | 56.23     | 7 589 | 147.84     | 5 137 881 | 17.78        |
| 8-9                                                                | 90 759  | 561   | 6.18          | 56.53     | 7 540 | 161.28     | 5 130 292 | 17.69        |
| 9-10                                                               | 90 198  | 512   | 5.68          | 56.79     | 7 495 | 175.68     | 5 122 752 | 17.61        |
| 10-11                                                              | 89 686  | 474   | 5.29          | 57.04     | 7 454 | 188.76     | 5 115 257 | 17.53        |
| 11-12                                                              | 89 212  | 455   | 5.10          | 57.25     | 7 415 | 195.60     | 5 107 803 | 17.47        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 11 243 | 112.43       | 51.93     | 92 455 | 8.22      | 5 192 843 | 19.26        |
| 1-2                                                              | 88 757  | 2 771  | 31.22        | 57.46     | 87 122 | 31.44     | 5 100 388 | 17.40        |
| 2-3                                                              | 85 986  | 1 268  | 14.75        | 58.30     | 85 314 | 67.28     | 5 013 266 | 17.15        |
| 3-4                                                              | 84 718  | 817    | 9.61         | 58.17     | 84 293 | 103.17    | 4 927 952 | 17.19        |
| 4-5                                                              | 83 901  | 624    | 7.44         | 57.73     | 83 576 | 133.94    | 4 843 659 | 17.32        |
| 5-6                                                              | 83 277  | 486    | 5.84         | 57.16     | 83 034 | 170.85    | 4 760 083 | 17.49        |
| 6-7                                                              | 82 791  | 395    | 4.77         | 56.49     | 82 593 | 209.10    | 4 677 049 | 17.70        |
| 7-8                                                              | 82 396  | 321    | 3.89         | 55.76     | 82 236 | 256.19    | 4 594 456 | 17.93        |
| 8-9                                                              | 82 075  | 261    | 3.22         | 54.98     | 81 913 | 310.39    | 4 512 220 | 18.19        |
| 9-10                                                             | 81 811  | 224    | 2.74         | 54.15     | 81 699 | 364.73    | 4 430 277 | 18.47        |
| 10-11                                                            | 81 587  | 200    | 2.46         | 53.30     | 81 487 | 407.44    | 4 348 578 | 18.76        |
| 11-12                                                            | 81 387  | 192    | 2.36         | 52.43     | 81 291 | 423.39    | 4 267 091 | 19.07        |
| 12-13                                                            | 81 195  | 196    | 2.42         | 51.55     | 81 097 | 413.76    | 4 185 800 | 19.40        |
| 13-14                                                            | 80 999  | 213    | 2.63         | 50.68     | 80 892 | 379.77    | 4 104 703 | 19.73        |
| 14-15                                                            | 80 786  | 240    | 2.97         | 49.81     | 80 666 | 336.11    | 4 023 811 | 20.08        |
| 15-16                                                            | 80 546  | 277    | 3.44         | 48.96     | 80 408 | 290.28    | 3 943 145 | 20.42        |
| 16-17                                                            | 80 269  | 314    | 3.92         | 48.12     | 80 112 | 255.13    | 3 862 737 | 20.78        |
| 17-18                                                            | 79 953  | 349    | 4.36         | 47.31     | 79 781 | 228.60    | 3 782 625 | 21.14        |
| 18-19                                                            | 79 606  | 379    | 4.76         | 46.51     | 79 417 | 209.54    | 3 702 844 | 21.50        |
| 19-20                                                            | 79 227  | 414    | 5.23         | 45.73     | 79 020 | 190.87    | 3 623 427 | 21.87        |
| 20-21                                                            | 78 813  | 453    | 5.75         | 44.97     | 78 586 | 173.48    | 3 544 407 | 22.24        |
| 21-22                                                            | 78 360  | 484    | 6.18         | 44.23     | 78 118 | 161.40    | 3 465 824 | 22.61        |
| 22-23                                                            | 77 876  | 505    | 6.48         | 43.50     | 77 623 | 153.71    | 3 387 703 | 22.99        |
| 23-24                                                            | 77 371  | 516    | 6.67         | 42.78     | 77 113 | 149.44    | 3 310 080 | 23.38        |
| 24-25                                                            | 76 855  | 528    | 6.86         | 42.07     | 76 591 | 145.06    | 3 232 967 | 23.77        |
| 25-26                                                            | 76 327  | 537    | 7.04         | 41.35     | 76 059 | 141.64    | 3 156 376 | 24.18        |
| 26-27                                                            | 75 790  | 545    | 7.19         | 40.64     | 75 518 | 138.57    | 3 080 317 | 24.61        |
| 27-28                                                            | 75 245  | 553    | 7.35         | 39.93     | 74 969 | 135.57    | 3 004 799 | 25.04        |
| 28-29                                                            | 74 692  | 562    | 7.52         | 39.23     | 74 411 | 132.40    | 2 929 830 | 25.49        |
| 29-30                                                            | 74 130  | 569    | 7.67         | 38.52     | 73 846 | 129.78    | 2 855 419 | 25.96        |
| 30-31                                                            | 73 561  | 575    | 7.83         | 37.81     | 73 273 | 127.43    | 2 781 573 | 26.45        |
| 31-32                                                            | 72 986  | 580    | 7.94         | 37.11     | 72 696 | 125.31    | 2 708 300 | 26.95        |
| 32-33                                                            | 72 406  | 578    | 7.98         | 36.40     | 72 117 | 124.77    | 2 635 604 | 27.47        |
| 33-34                                                            | 71 828  | 573    | 7.99         | 35.69     | 71 541 | 124.85    | 2 563 487 | 28.02        |
| 34-35                                                            | 71 255  | 569    | 7.99         | 34.97     | 70 970 | 124.73    | 2 491 946 | 28.60        |
| 35-36                                                            | 70 686  | 561    | 7.97         | 34.25     | 70 404 | 124.83    | 2 420 976 | 29.20        |
| 36-37                                                            | 70 122  | 560    | 8.00         | 33.52     | 69 842 | 124.72    | 2 350 572 | 29.83        |
| 37-38                                                            | 69 562  | 565    | 8.11         | 32.79     | 69 279 | 122.62    | 2 280 730 | 30.50        |
| 38-39                                                            | 68 997  | 572    | 8.29         | 32.05     | 68 711 | 120.12    | 2 211 451 | 31.20        |
| 39-40                                                            | 68 425  | 579    | 8.46         | 31.32     | 68 136 | 117.68    | 2 142 740 | 31.93        |
| 40-41                                                            | 67 846  | 586    | 8.64         | 30.58     | 67 553 | 115.28    | 2 074 604 | 32.70        |
| 41-42                                                            | 67 260  | 595    | 8.84         | 29.84     | 66 962 | 112.54    | 2 007 051 | 33.51        |
| 42-43                                                            | 66 665  | 601    | 9.06         | 29.10     | 66 363 | 109.87    | 1 940 089 | 34.36        |
| 43-44                                                            | 66 061  | 615    | 9.32         | 28.36     | 65 753 | 106.92    | 1 873 726 | 35.26        |
| 44-45                                                            | 65 446  | 630    | 9.62         | 27.63     | 65 131 | 103.38    | 1 807 973 | 36.19        |



## THE ORIGINAL REGISTRATION STATES: 1901.

## TABLE 21

REPORTED DEATHS IN 1900 (118,340), IN 1901 (111,495), AND IN 1902 (107,132).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE<br>INTERVAL.                                    | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 64 816 | 617   | 9.98         | 26.89     | 64 493 | 99.68     | 1 742 842 | 37.19        |
| 46-47                                                                      | 64 169 | 661   | 10.35        | 26.16     | 63 837 | 96.14     | 1 678 349 | 38.23        |
| 47-48                                                                      | 63 505 | 678   | 10.69        | 25.42     | 63 166 | 93.17     | 1 614 512 | 39.34        |
| 48-49                                                                      | 62 827 | 692   | 11.00        | 24.69     | 62 481 | 90.29     | 1 551 346 | 40.50        |
| 49-50                                                                      | 62 135 | 705   | 11.36        | 23.96     | 61 782 | 87.63     | 1 488 865 | 41.74        |
| 50-51                                                                      | 61 430 | 721   | 11.74        | 23.23     | 61 069 | 84.70     | 1 427 083 | 43.05        |
| 51-52                                                                      | 60 709 | 743   | 12.22        | 22.50     | 60 337 | 81.21     | 1 366 014 | 44.44        |
| 52-53                                                                      | 59 966 | 772   | 12.88        | 21.77     | 59 580 | 77.18     | 1 305 677 | 45.93        |
| 53-54                                                                      | 59 194 | 811   | 13.70        | 21.05     | 58 788 | 72.49     | 1 246 097 | 47.51        |
| 54-55                                                                      | 58 383 | 852   | 14.59        | 20.34     | 57 957 | 68.02     | 1 187 309 | 49.16        |
| 55-56                                                                      | 57 531 | 896   | 15.59        | 19.63     | 57 083 | 63.71     | 1 129 352 | 50.94        |
| 56-57                                                                      | 56 635 | 941   | 16.60        | 18.93     | 56 164 | 59.69     | 1 072 269 | 52.83        |
| 57-58                                                                      | 55 694 | 976   | 17.53        | 18.24     | 55 206 | 56.56     | 1 016 105 | 54.82        |
| 58-59                                                                      | 54 718 | 1 008 | 18.43        | 17.56     | 54 214 | 53.78     | 960 899   | 56.95        |
| 59-60                                                                      | 53 710 | 1 044 | 19.44        | 16.88     | 53 188 | 50.95     | 906 685   | 59.24        |
| 60-61                                                                      | 52 666 | 1 080 | 20.51        | 16.21     | 52 126 | 48.26     | 853 497   | 61.69        |
| 61-62                                                                      | 51 586 | 1 128 | 21.86        | 15.53     | 51 022 | 45.23     | 801 371   | 64.39        |
| 62-63                                                                      | 50 458 | 1 194 | 23.67        | 14.87     | 49 861 | 41.76     | 750 319   | 67.25        |
| 63-64                                                                      | 49 264 | 1 274 | 25.87        | 14.22     | 48 627 | 38.17     | 700 488   | 70.32        |
| 64-65                                                                      | 47 990 | 1 355 | 28.22        | 13.58     | 47 312 | 34.92     | 651 861   | 73.64        |
| 65-66                                                                      | 46 635 | 1 437 | 30.82        | 12.96     | 45 917 | 31.95     | 604 549   | 77.16        |
| 66-67                                                                      | 45 198 | 1 517 | 33.55        | 12.36     | 44 440 | 29.29     | 558 632   | 80.91        |
| 67-68                                                                      | 43 681 | 1 588 | 36.37        | 11.77     | 42 887 | 27.01     | 514 192   | 84.96        |
| 68-69                                                                      | 42 093 | 1 657 | 39.37        | 11.20     | 41 264 | 24.90     | 471 305   | 89.29        |
| 69-70                                                                      | 40 436 | 1 728 | 42.72        | 10.64     | 39 572 | 22.90     | 430 011   | 93.98        |
| 70-71                                                                      | 38 708 | 1 796 | 46.41        | 10.09     | 37 810 | 21.05     | 390 469   | 99.11        |
| 71-72                                                                      | 36 912 | 1 870 | 50.65        | 9.55      | 35 977 | 19.24     | 352 659   | 104.71       |
| 72-73                                                                      | 35 042 | 1 947 | 55.57        | 9.01      | 34 069 | 17.50     | 316 682   | 110.62       |
| 73-74                                                                      | 33 095 | 2 014 | 60.81        | 8.51      | 32 088 | 15.93     | 282 613   | 117.10       |
| 74-75                                                                      | 31 081 | 2 072 | 66.68        | 8.06      | 30 045 | 14.50     | 250 525   | 124.07       |
| 75-76                                                                      | 29 009 | 2 123 | 73.19        | 7.60      | 27 947 | 13.16     | 220 480   | 131.58       |
| 76-77                                                                      | 26 886 | 2 162 | 80.41        | 7.16      | 25 805 | 11.94     | 192 533   | 139.66       |
| 77-78                                                                      | 24 724 | 2 184 | 88.34        | 6.74      | 23 632 | 10.82     | 166 728   | 148.37       |
| 78-79                                                                      | 22 510 | 2 186 | 96.95        | 6.35      | 21 447 | 9.51      | 143 096   | 157.48       |
| 79-80                                                                      | 20 354 | 2 161 | 106.17       | 5.98      | 19 274 | 8.92      | 121 619   | 167.22       |
| 80-81                                                                      | 18 193 | 2 108 | 115.87       | 5.63      | 17 139 | 8.13      | 102 375   | 177.62       |
| 81-82                                                                      | 16 085 | 2 026 | 125.96       | 5.30      | 15 072 | 7.44      | 85 236    | 188.68       |
| 82-83                                                                      | 14 059 | 1 917 | 136.37       | 4.99      | 13 101 | 6.83      | 70 164    | 200.40       |
| 83-84                                                                      | 12 112 | 1 786 | 147.08       | 4.70      | 11 249 | 6.30      | 57 063    | 212.77       |
| 84-85                                                                      | 10 356 | 1 638 | 158.17       | 4.42      | 9 537  | 5.82      | 45 814    | 226.24       |
| 85-86                                                                      | 8 718  | 1 480 | 169.78       | 4.16      | 7 978  | 5.39      | 36 277    | 240.38       |
| 86-87                                                                      | 7 238  | 1 318 | 182.13       | 3.91      | 6 579  | 4.99      | 28 299    | 255.75       |
| 87-88                                                                      | 5 920  | 1 157 | 195.42       | 3.67      | 5 341  | 4.62      | 21 720    | 272.48       |
| 88-89                                                                      | 4 763  | 999   | 209.82       | 3.44      | 4 263  | 4.27      | 16 379    | 290.70       |
| 89-90                                                                      | 3 761  | 849   | 225.43       | 3.22      | 3 339  | 3.94      | 12 116    | 310.56       |
| 90-91                                                                      | 2 915  | 706   | 242.26       | 3.01      | 2 562  | 3.63      | 8 777     | 332.23       |
| 91-92                                                                      | 2 209  | 575   | 260.31       | 2.81      | 1 921  | 3.34      | 6 215     | 355.87       |
| 92-93                                                                      | 1 634  | 457   | 279.51       | 2.63      | 1 406  | 3.08      | 4 294     | 380.23       |
| 93-94                                                                      | 1 177  | 353   | 299.82       | 2.45      | 1 001  | 2.81      | 2 888     | 408.16       |
| 94-95                                                                      | 824    | 265   | 321.24       | 2.29      | 692    | 2.61      | 1 887     | 436.68       |
| 95-96                                                                      | 559    | 192   | 343.78       | 2.13      | 463    | 2.41      | 1 195     | 469.48       |
| 96-97                                                                      | 367    | 135   | 367.50       | 1.99      | 300    | 2.22      | 732       | 502.51       |
| 97-98                                                                      | 232    | 91    | 392.16       | 1.85      | 187    | 2.05      | 432       | 510.54       |
| 98-99                                                                      | 141    | 59    | 418.75       | 1.72      | 112    | 1.89      | 215       | 581.40       |
| 99-100                                                                     | 82     | 37    | 446.42       | 1.60      | 64     | 1.74      | 133       | 625.00       |
| 100-101                                                                    | 45     | 21    | 475.37       | 1.49      | 35     | 1.60      | 69        | 671.14       |
| 101-102                                                                    | 24     | 12    | 505.79       | 1.38      | 18     | 1.48      | 34        | 724.64       |
| 102-103                                                                    | 12     | 7     | 537.55       | 1.28      | 9      | 1.36      | 16        | 781.25       |
| 103-104                                                                    | 5      | 3     | 570.60       | 1.19      | 4      | 1.25      | 7         | 840.34       |
| 104-105                                                                    | 2      | 1     | 604.90       | 1.10      | 2      | 1.15      | 3         | 909.09       |
| 105-106                                                                    | 1      | 1     | 640.38       | 1.02      | 1      | 1.06      | 1         | 980.39       |

## UNITED STATES LIFE TABLES.

TABLE 22

## LIFE TABLE FOR NATIVE WHITE FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (8,872,897), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE<br>INTERVAL.                                     | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|------------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                      |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>life time<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                         | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                    | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            |         |       | Monthly rate. | In years. |       | Per month. |           | Annual rate. |
| 0-1                                                                | 100 000 | 3 891 | 38.94         | 54.19     | 8 090 | 24.96      | 5 419 272 | 18.45        |
| 1-2                                                                | 96 106  | 1 017 | 10.58         | 56.30     | 7 966 | 93.96      | 5 411 182 | 17.76        |
| 2-3                                                                | 95 089  | 848   | 8.92          | 56.82     | 7 889 | 111.60     | 5 403 216 | 17.60        |
| 3-4                                                                | 94 211  | 741   | 7.87          | 57.25     | 7 823 | 126.72     | 5 395 327 | 17.47        |
| 4-5                                                                | 93 500  | 658   | 7.04          | 57.62     | 7 764 | 141.60     | 5 387 504 | 17.36        |
| 5-6                                                                | 92 842  | 597   | 6.43          | 57.95     | 7 712 | 155.04     | 5 379 740 | 17.26        |
| 6-7                                                                | 92 245  | 514   | 5.90          | 58.24     | 7 664 | 169.08     | 5 372 028 | 17.17        |
| 7-8                                                                | 91 701  | 497   | 5.41          | 58.50     | 7 621 | 183.96     | 5 364 364 | 17.09        |
| 8-9                                                                | 91 204  | 457   | 5.02          | 58.73     | 7 581 | 199.08     | 5 356 743 | 17.03        |
| 9-10                                                               | 90 747  | 427   | 4.70          | 58.95     | 7 544 | 212.04     | 5 349 162 | 16.96        |
| 10-11                                                              | 90 320  | 401   | 4.45          | 59.14     | 7 510 | 221.76     | 5 341 618 | 16.91        |
| 11-12                                                              | 89 919  | 379   | 4.21          | 59.32     | 7 477 | 236.76     | 5 334 108 | 16.86        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 10 460 | 104.60       | 54.19     | 92 641 | 8.86      | 5 419 272 | 18.45        |
| 1-2                                                              | 89 510  | 2 337  | 26.10        | 59.49     | 88 161 | 37.72     | 5 326 631 | 16.81        |
| 2-3                                                              | 87 203  | 998    | 11.44        | 60.07     | 86 674 | 86.85     | 5 238 470 | 16.65        |
| 3-4                                                              | 86 205  | 635    | 7.38         | 59.76     | 85 875 | 135.24    | 5 151 796 | 16.73        |
| 4-5                                                              | 85 570  | 449    | 5.24         | 59.20     | 85 336 | 190.06    | 5 065 921 | 16.89        |
| 5-6                                                              | 85 121  | 378    | 4.45         | 58.51     | 84 932 | 224.69    | 4 980 585 | 17.09        |
| 6-7                                                              | 84 743  | 314    | 3.70         | 57.77     | 84 586 | 269.38    | 4 895 653 | 17.31        |
| 7-8                                                              | 84 429  | 261    | 3.09         | 56.98     | 84 298 | 322.98    | 4 811 067 | 17.55        |
| 8-9                                                              | 84 168  | 219    | 2.60         | 56.16     | 84 059 | 383.83    | 4 726 769 | 17.81        |
| 9-10                                                             | 83 949  | 189    | 2.26         | 55.30     | 83 854 | 443.67    | 4 642 710 | 18.08        |
| 10-11                                                            | 83 760  | 173    | 2.06         | 54.43     | 83 673 | 483.66    | 4 558 856 | 18.37        |
| 11-12                                                            | 83 587  | 165    | 1.98         | 53.51     | 83 505 | 506.09    | 4 475 183 | 18.68        |
| 12-13                                                            | 83 422  | 168    | 2.02         | 52.61     | 83 338 | 496.06    | 4 391 678 | 19.00        |
| 13-14                                                            | 83 254  | 179    | 2.15         | 51.75     | 83 164 | 464.60    | 4 308 340 | 19.32        |
| 14-15                                                            | 83 075  | 197    | 2.36         | 50.86     | 82 977 | 421.20    | 4 225 176 | 19.66        |
| 15-16                                                            | 82 878  | 219    | 2.64         | 49.98     | 82 769 | 377.94    | 4 142 199 | 20.01        |
| 16-17                                                            | 82 659  | 243    | 2.93         | 49.11     | 82 537 | 339.66    | 4 059 430 | 20.36        |
| 17-18                                                            | 82 416  | 269    | 3.26         | 48.25     | 82 281 | 305.88    | 3 976 893 | 20.73        |
| 18-19                                                            | 82 147  | 296    | 3.60         | 47.41     | 81 999 | 277.02    | 3 894 612 | 21.09        |
| 19-20                                                            | 81 851  | 325    | 3.97         | 46.58     | 81 689 | 251.36    | 3 812 613 | 21.47        |
| 20-21                                                            | 81 526  | 358    | 4.40         | 45.76     | 81 347 | 227.23    | 3 730 924 | 21.85        |
| 21-22                                                            | 81 168  | 386    | 4.76         | 44.96     | 80 975 | 209.78    | 3 649 577 | 22.24        |
| 22-23                                                            | 80 782  | 403    | 4.99         | 44.18     | 80 581 | 199.95    | 3 568 602 | 22.63        |
| 23-24                                                            | 80 379  | 412    | 5.12         | 43.39     | 80 175 | 194.59    | 3 488 021 | 23.05        |
| 24-25                                                            | 79 967  | 421    | 5.28         | 42.62     | 79 756 | 189.44    | 3 407 848 | 23.46        |
| 25-26                                                            | 79 546  | 432    | 5.43         | 41.84     | 79 330 | 183.63    | 3 328 092 | 23.90        |
| 26-27                                                            | 79 114  | 441    | 5.57         | 41.06     | 78 893 | 178.90    | 3 248 762 | 24.35        |
| 27-28                                                            | 78 673  | 450    | 5.72         | 40.29     | 78 448 | 174.33    | 3 169 869 | 24.82        |
| 28-29                                                            | 78 223  | 458    | 5.86         | 39.52     | 77 994 | 170.29    | 3 091 421 | 25.30        |
| 29-30                                                            | 77 765  | 467    | 6.00         | 38.75     | 77 531 | 166.02    | 3 013 427 | 25.81        |
| 30-31                                                            | 77 298  | 473    | 6.13         | 37.98     | 77 062 | 162.92    | 2 935 896 | 26.33        |
| 31-32                                                            | 76 825  | 482    | 6.27         | 37.21     | 76 581 | 158.89    | 2 858 844 | 26.87        |
| 32-33                                                            | 76 343  | 493    | 6.45         | 36.44     | 76 097 | 154.35    | 2 782 250 | 27.44        |
| 33-34                                                            | 75 850  | 503    | 6.64         | 35.68     | 75 598 | 150.29    | 2 706 153 | 28.03        |
| 34-35                                                            | 75 347  | 514    | 6.82         | 34.91     | 75 090 | 146.09    | 2 630 555 | 28.65        |
| 35-36                                                            | 74 833  | 524    | 7.00         | 34.15     | 74 571 | 142.31    | 2 555 465 | 29.28        |
| 36-37                                                            | 74 309  | 532    | 7.16         | 33.39     | 74 043 | 139.18    | 2 480 894 | 29.95        |
| 37-38                                                            | 73 777  | 538    | 7.30         | 32.62     | 73 508 | 136.63    | 2 406 851 | 30.66        |
| 38-39                                                            | 73 239  | 545    | 7.44         | 31.86     | 72 966 | 133.58    | 2 333 343 | 31.39        |
| 39-40                                                            | 72 694  | 552    | 7.59         | 31.09     | 72 418 | 131.19    | 2 260 377 | 32.16        |
| 40-41                                                            | 72 142  | 560    | 7.76         | 30.33     | 71 862 | 128.33    | 2 187 959 | 32.97        |
| 41-42                                                            | 71 582  | 570    | 7.97         | 29.56     | 71 297 | 125.08    | 2 116 097 | 33.83        |
| 42-43                                                            | 71 012  | 585    | 8.24         | 28.80     | 70 720 | 120.89    | 2 044 800 | 34.72        |
| 43-44                                                            | 70 427  | 603    | 8.56         | 28.03     | 70 126 | 116.30    | 1 974 080 | 35.68        |
| 44-45                                                            | 69 824  | 623    | 8.92         | 27.27     | 69 513 | 111.58    | 1 903 954 | 36.67        |

## THE ORIGINAL REGISTRATION STATES: 1910.

## TABLE 22

REPORTED DEATHS IN 1909 (116,471), IN 1910 (123,551), AND IN 1911 (119,064).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 69 201 | 615   | 9.33         | 26.51     | 68 879 | 106.79    | 1 834 441 | 37.72        |
| 46-47                                                                      | 68 556 | 671   | 9.79         | 25.75     | 68 220 | 101.67    | 1 765 562 | 38.83        |
| 47-48                                                                      | 67 885 | 697   | 10.26        | 25.00     | 67 536 | 96.90     | 1 697 342 | 40.00        |
| 48-49                                                                      | 67 188 | 720   | 10.72        | 24.26     | 66 828 | 92.82     | 1 629 806 | 41.22        |
| 49-50                                                                      | 66 468 | 745   | 11.20        | 23.51     | 66 095 | 88.72     | 1 562 978 | 42.54        |
| 50-51                                                                      | 65 723 | 767   | 11.68        | 22.78     | 65 339 | 85.19     | 1 496 883 | 43.90        |
| 51-52                                                                      | 64 956 | 795   | 12.24        | 22.04     | 64 558 | 81.21     | 1 431 544 | 45.37        |
| 52-53                                                                      | 64 161 | 832   | 12.97        | 21.31     | 63 745 | 76.62     | 1 366 986 | 46.93        |
| 53-54                                                                      | 63 329 | 880   | 13.90        | 20.58     | 62 889 | 71.46     | 1 303 241 | 48.59        |
| 54-55                                                                      | 62 449 | 931   | 14.95        | 19.86     | 61 982 | 66.36     | 1 240 352 | 50.35        |
| 55-56                                                                      | 61 515 | 997   | 16.20        | 19.16     | 61 017 | 61.20     | 1 178 370 | 52.19        |
| 56-57                                                                      | 60 518 | 1 058 | 17.49        | 18.46     | 59 989 | 56.70     | 1 117 353 | 54.17        |
| 57-58                                                                      | 59 460 | 1 107 | 18.62        | 17.78     | 58 907 | 53.21     | 1 057 364 | 56.24        |
| 58-59                                                                      | 58 353 | 1 145 | 19.63        | 17.11     | 57 780 | 50.46     | 998 457   | 58.45        |
| 59-60                                                                      | 57 208 | 1 190 | 20.79        | 16.44     | 56 613 | 47.57     | 940 677   | 60.83        |
| 60-61                                                                      | 56 018 | 1 236 | 22.06        | 15.78     | 55 400 | 44.82     | 884 064   | 63.37        |
| 61-62                                                                      | 54 782 | 1 292 | 23.58        | 15.13     | 54 136 | 41.90     | 828 664   | 66.09        |
| 62-63                                                                      | 53 490 | 1 363 | 25.48        | 14.48     | 52 809 | 38.74     | 774 528   | 69.06        |
| 63-64                                                                      | 52 127 | 1 443 | 27.69        | 13.85     | 51 406 | 35.62     | 721 719   | 72.20        |
| 64-65                                                                      | 50 684 | 1 520 | 29.99        | 13.23     | 49 924 | 32.84     | 670 313   | 75.59        |
| 65-66                                                                      | 49 164 | 1 591 | 32.37        | 12.62     | 48 369 | 30.40     | 620 389   | 79.24        |
| 66-67                                                                      | 47 573 | 1 667 | 35.04        | 12.02     | 46 740 | 28.04     | 572 020   | 83.19        |
| 67-68                                                                      | 45 906 | 1 753 | 38.19        | 11.44     | 45 029 | 25.69     | 525 280   | 87.41        |
| 68-69                                                                      | 44 153 | 1 847 | 41.84        | 10.88     | 43 229 | 23.40     | 480 251   | 91.91        |
| 69-70                                                                      | 42 306 | 1 939 | 45.82        | 10.33     | 41 336 | 21.32     | 437 022   | 96.81        |
| 70-71                                                                      | 40 367 | 2 028 | 50.24        | 9.80      | 39 353 | 19.40     | 395 686   | 102.04       |
| 71-72                                                                      | 38 339 | 2 107 | 54.95        | 9.29      | 37 286 | 17.70     | 356 333   | 107.64       |
| 72-73                                                                      | 36 232 | 2 165 | 59.78        | 8.81      | 35 149 | 16.24     | 319 047   | 113.51       |
| 73-74                                                                      | 34 067 | 2 207 | 64.76        | 8.33      | 32 963 | 14.94     | 283 898   | 120.05       |
| 74-75                                                                      | 31 860 | 2 237 | 70.22        | 7.88      | 30 742 | 13.74     | 250 935   | 126.90       |
| 75-76                                                                      | 29 623 | 2 255 | 76.13        | 7.43      | 28 495 | 12.64     | 220 193   | 134.59       |
| 76-77                                                                      | 27 368 | 2 263 | 82.67        | 7.00      | 26 237 | 11.59     | 191 698   | 142.86       |
| 77-78                                                                      | 25 105 | 2 264 | 90.19        | 6.59      | 23 973 | 10.59     | 165 461   | 151.75       |
| 78-79                                                                      | 22 811 | 2 259 | 98.93        | 6.19      | 21 711 | 9.61      | 141 488   | 161.55       |
| 79-80                                                                      | 20 582 | 2 244 | 109.01       | 5.82      | 19 460 | 8.67      | 119 777   | 171.82       |
| 80-81                                                                      | 18 338 | 2 223 | 121.23       | 5.47      | 17 227 | 7.75      | 100 317   | 182.82       |
| 81-82                                                                      | 16 115 | 2 158 | 133.94       | 5.16      | 15 036 | 6.97      | 83 090    | 193.80       |
| 82-83                                                                      | 13 957 | 2 022 | 144.87       | 4.88      | 12 946 | 6.40      | 68 054    | 204.92       |
| 83-84                                                                      | 11 935 | 1 835 | 153.75       | 4.62      | 11 017 | 6.00      | 55 108    | 216.45       |
| 84-85                                                                      | 10 100 | 1 652 | 163.52       | 4.37      | 9 274  | 5.62      | 44 091    | 228.83       |
| 85-86                                                                      | 8 448  | 1 469 | 173.91       | 4.12      | 7 714  | 5.25      | 34 817    | 242.72       |
| 86-87                                                                      | 6 979  | 1 295 | 185.57       | 3.88      | 6 331  | 4.89      | 27 103    | 257.73       |
| 87-88                                                                      | 5 684  | 1 126 | 198.13       | 3.65      | 5 121  | 4.55      | 20 772    | 273.97       |
| 88-89                                                                      | 4 558  | 965   | 211.72       | 3.43      | 4 075  | 4.22      | 15 651    | 291.53       |
| 89-90                                                                      | 3 593  | 814   | 226.41       | 3.22      | 3 186  | 3.93      | 11 576    | 310.56       |
| 90-91                                                                      | 2 779  | 673   | 242.22       | 3.02      | 2 443  | 3.63      | 8 390     | 331.13       |
| 91-92                                                                      | 2 106  | 546   | 259.17       | 2.82      | 1 833  | 3.36      | 5 947     | 354.61       |
| 92-93                                                                      | 1 560  | 432   | 277.37       | 2.64      | 1 344  | 3.11      | 4 114     | 378.79       |
| 93-94                                                                      | 1 128  | 335   | 297.08       | 2.46      | 960    | 2.87      | 2 770     | 406.50       |
| 94-95                                                                      | 793    | 253   | 318.57       | 2.28      | 666    | 2.64      | 1 810     | 438.60       |
| 95-96                                                                      | 540    | 185   | 342.18       | 2.12      | 448    | 2.42      | 1 141     | 471.70       |
| 96-97                                                                      | 355    | 131   | 368.11       | 1.96      | 290    | 2.22      | 696       | 510.20       |
| 97-98                                                                      | 224    | 89    | 396.51       | 1.80      | 180    | 2.02      | 406       | 555.56       |
| 98-99                                                                      | 135    | 57    | 427.35       | 1.66      | 107    | 1.84      | 226       | 602.41       |
| 99-100                                                                     | 78     | 36    | 460.37       | 1.53      | 60     | 1.67      | 119       | 633.59       |
| 100-101                                                                    | 42     | 21    | 495.18       | 1.40      | 32     | 1.52      | 59        | 714.29       |
| 101-102                                                                    | 21     | 11    | 531.49       | 1.29      | 16     | 1.38      | 27        | 775.19       |
| 102-103                                                                    | 10     | 6     | 568.93       | 1.19      | 7      | 1.26      | 11        | 840.31       |
| 103-104                                                                    | 4      | 2     | 607.22       | 1.09      | 3      | 1.15      | 4         | 917.43       |
| 104-105                                                                    | 2      | 1     | 645.62       | 1.01      | 1      | 1.05      | 1         | 990.10       |
| 105-106                                                                    | 1      | 1     | 684.48       | .93       |        | .96       |           |              |

TABLE 23

## LIFE TABLE FOR FOREIGN-BORN WHITE MALES

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (2,367,801), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE INTERVAL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | OF 100,000 MALES ALIVE AT EXACT AGE 5:     |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males at Age 5 were Added Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |
| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| Months.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                            |                               | Monthly rate.                                                                | In years.                                                                        |                                                                                                                                                                                                             | Per month.                            |                                                                    | Annual rate.                                                                                 |
| 0-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| 1-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| 2-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| 3-4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| 4-5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| 6-7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| 7-8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| 8-9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| 9-10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| 10-11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| 11-12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| There are two important reasons for beginning the life tables for foreign-born whites at age 5: First, the proportion of children under 5 years of age among foreign-born whites is so much smaller than among other classes of the population that mortality rates deduced therefrom are not reliable; second, the deaths among whites of unknown nativity must be distributed among deaths of native whites and foreign-born whites, and any error in the choice of the method of distribution would materially affect mortality rates under 5 years of age among the foreign-born whites. |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| Years.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                            |                               | Annual rate.                                                                 | In years.                                                                        |                                                                                                                                                                                                             | Per year.                             |                                                                    | Annual rate.                                                                                 |
| 0-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| 1-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| 2-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| 3-4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| 4-5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| 5-6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 100 000                                    | 933                           | 9.33                                                                         | 52.71                                                                            | 99 531                                                                                                                                                                                                      | 106.68                                | 5 271 201                                                          | 18.97                                                                                        |
| 6-7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 99 067                                     | 616                           | 6.22                                                                         | 52.20                                                                            | 98 759                                                                                                                                                                                                      | 160.32                                | 5 171 667                                                          | 19.16                                                                                        |
| 7-8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 98 451                                     | 435                           | 4.42                                                                         | 51.53                                                                            | 98 234                                                                                                                                                                                                      | 225.83                                | 5 072 908                                                          | 19.41                                                                                        |
| 8-9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 98 016                                     | 329                           | 3.36                                                                         | 50.75                                                                            | 97 851                                                                                                                                                                                                      | 297.42                                | 4 974 671                                                          | 19.70                                                                                        |
| 9-10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 97 687                                     | 272                           | 2.78                                                                         | 49.92                                                                            | 97 551                                                                                                                                                                                                      | 358.64                                | 4 876 823                                                          | 20.03                                                                                        |
| 10-11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 97 415                                     | 246                           | 2.53                                                                         | 49.06                                                                            | 97 292                                                                                                                                                                                                      | 395.50                                | 4 779 272                                                          | 20.38                                                                                        |
| 11-12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 97 169                                     | 215                           | 2.52                                                                         | 48.18                                                                            | 97 046                                                                                                                                                                                                      | 396.11                                | 4 681 950                                                          | 20.76                                                                                        |
| 12-13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 96 924                                     | 259                           | 2.67                                                                         | 47.30                                                                            | 96 795                                                                                                                                                                                                      | 373.73                                | 4 584 934                                                          | 21.14                                                                                        |
| 13-14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 96 665                                     | 284                           | 2.95                                                                         | 46.43                                                                            | 96 523                                                                                                                                                                                                      | 339.87                                | 4 488 139                                                          | 21.54                                                                                        |
| 14-15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 96 381                                     | 316                           | 3.28                                                                         | 45.57                                                                            | 96 223                                                                                                                                                                                                      | 304.50                                | 4 391 616                                                          | 21.94                                                                                        |
| 15-16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 96 065                                     | 348                           | 3.62                                                                         | 44.71                                                                            | 95 891                                                                                                                                                                                                      | 275.55                                | 4 295 393                                                          | 22.37                                                                                        |
| 16-17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 95 717                                     | 358                           | 4.05                                                                         | 43.87                                                                            | 95 523                                                                                                                                                                                                      | 246.19                                | 4 199 502                                                          | 22.79                                                                                        |
| 17-18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 95 329                                     | 433                           | 4.55                                                                         | 43.05                                                                            | 95 113                                                                                                                                                                                                      | 219.66                                | 4 103 979                                                          | 23.23                                                                                        |
| 18-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 94 896                                     | 476                           | 5.01                                                                         | 42.24                                                                            | 94 658                                                                                                                                                                                                      | 198.86                                | 4 008 866                                                          | 23.67                                                                                        |
| 19-20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 94 420                                     | 510                           | 5.40                                                                         | 41.46                                                                            | 94 165                                                                                                                                                                                                      | 181.61                                | 3 914 208                                                          | 24.12                                                                                        |
| 20-21                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 93 910                                     | 540                           | 5.75                                                                         | 40.68                                                                            | 93 640                                                                                                                                                                                                      | 173.41                                | 3 820 043                                                          | 24.58                                                                                        |
| 21-22                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 93 370                                     | 562                           | 6.01                                                                         | 39.91                                                                            | 93 089                                                                                                                                                                                                      | 165.61                                | 3 726 403                                                          | 25.06                                                                                        |
| 22-23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 92 808                                     | 573                           | 6.18                                                                         | 39.15                                                                            | 92 522                                                                                                                                                                                                      | 161.47                                | 3 633 314                                                          | 25.51                                                                                        |
| 23-24                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 92 235                                     | 550                           | 6.29                                                                         | 38.39                                                                            | 91 945                                                                                                                                                                                                      | 158.53                                | 3 540 792                                                          | 26.05                                                                                        |
| 24-25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 91 655                                     | 588                           | 6.42                                                                         | 37.63                                                                            | 91 361                                                                                                                                                                                                      | 155.38                                | 3 448 847                                                          | 26.57                                                                                        |
| 25-26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 91 067                                     | 597                           | 6.55                                                                         | 36.87                                                                            | 90 769                                                                                                                                                                                                      | 152.04                                | 3 357 486                                                          | 27.12                                                                                        |
| 26-27                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 90 470                                     | 605                           | 6.69                                                                         | 36.11                                                                            | 90 168                                                                                                                                                                                                      | 149.01                                | 3 266 717                                                          | 27.69                                                                                        |
| 27-28                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 89 865                                     | 614                           | 6.83                                                                         | 35.35                                                                            | 89 558                                                                                                                                                                                                      | 145.86                                | 3 176 549                                                          | 28.29                                                                                        |
| 28-29                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 89 251                                     | 624                           | 6.99                                                                         | 34.59                                                                            | 88 939                                                                                                                                                                                                      | 142.53                                | 3 086 991                                                          | 28.91                                                                                        |
| 29-30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 88 627                                     | 635                           | 7.17                                                                         | 33.83                                                                            | 88 310                                                                                                                                                                                                      | 139.07                                | 2 998 052                                                          | 29.56                                                                                        |
| 30-31                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 87 992                                     | 645                           | 7.34                                                                         | 33.07                                                                            | 87 670                                                                                                                                                                                                      | 135.92                                | 2 909 742                                                          | 30.24                                                                                        |
| 31-32                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 87 347                                     | 667                           | 7.64                                                                         | 32.31                                                                            | 87 013                                                                                                                                                                                                      | 130.45                                | 2 822 072                                                          | 30.95                                                                                        |
| 32-33                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 86 680                                     | 702                           | 8.10                                                                         | 31.55                                                                            | 86 329                                                                                                                                                                                                      | 122.98                                | 2 735 059                                                          | 31.70                                                                                        |
| 33-34                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 85 978                                     | 745                           | 8.66                                                                         | 30.81                                                                            | 85 605                                                                                                                                                                                                      | 114.91                                | 2 648 730                                                          | 32.46                                                                                        |
| 34-35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 85 233                                     | 785                           | 9.21                                                                         | 30.07                                                                            | 84 841                                                                                                                                                                                                      | 108.08                                | 2 563 125                                                          | 33.26                                                                                        |
| 35-36                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 84 448                                     | 826                           | 9.78                                                                         | 29.35                                                                            | 84 035                                                                                                                                                                                                      | 101.74                                | 2 478 284                                                          | 34.07                                                                                        |
| 36-37                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 83 622                                     | 860                           | 10.29                                                                        | 28.63                                                                            | 83 192                                                                                                                                                                                                      | 96.73                                 | 2 394 249                                                          | 34.93                                                                                        |
| 37-38                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 82 762                                     | 885                           | 10.69                                                                        | 27.92                                                                            | 82 319                                                                                                                                                                                                      | 93.02                                 | 2 311 057                                                          | 35.82                                                                                        |
| 38-39                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 81 877                                     | 905                           | 11.05                                                                        | 27.22                                                                            | 81 424                                                                                                                                                                                                      | 89.97                                 | 2 228 738                                                          | 36.74                                                                                        |
| 39-40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 80 972                                     | 928                           | 11.46                                                                        | 26.52                                                                            | 80 508                                                                                                                                                                                                      | 86.75                                 | 2 147 314                                                          | 37.71                                                                                        |
| 40-41                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 80 044                                     | 955                           | 11.93                                                                        | 25.82                                                                            | 79 566                                                                                                                                                                                                      | 83.32                                 | 2 066 806                                                          | 38.73                                                                                        |
| 41-42                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 79 089                                     | 983                           | 12.43                                                                        | 25.13                                                                            | 78 597                                                                                                                                                                                                      | 79.96                                 | 1 987 240                                                          | 39.79                                                                                        |
| 42-43                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 78 106                                     | 1 013                         | 12.97                                                                        | 24.44                                                                            | 77 599                                                                                                                                                                                                      | 76.60                                 | 1 908 643                                                          | 40.92                                                                                        |
| 43-44                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 77 093                                     | 1 044                         | 13.61                                                                        | 23.75                                                                            | 76 571                                                                                                                                                                                                      | 73.34                                 | 1 831 044                                                          | 42.11                                                                                        |
| 44-45                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 76 049                                     | 1 080                         | 14.19                                                                        | 23.07                                                                            | 75 509                                                                                                                                                                                                      | 69.92                                 | 1 754 473                                                          | 43.35                                                                                        |

## IN THE ORIGINAL REGISTRATION STATES: 1901.

## TABLE 23

REPORTED DEATHS IN 1900 (43,934), IN 1901 (45,280), AND IN 1902 (43,253).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 MALES ALIVE AT EXACT AGE 5:     |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males at Age 5 were Added Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 74 969 | 1 120 | 14.94        | 22.10     | 74 409 | 66.44     | 1 678 964 | 44.64        |
| 46-47                                                                      | 73 849 | 1 162 | 15.74        | 21.73     | 73 268 | 63.05     | 1 604 555 | 46.02        |
| 47-48                                                                      | 72 687 | 1 203 | 16.54        | 21.07     | 72 086 | 59.92     | 1 531 287 | 47.46        |
| 48-49                                                                      | 71 481 | 1 237 | 17.31        | 20.41     | 70 866 | 57.29     | 1 459 201 | 49.00        |
| 49-50                                                                      | 70 247 | 1 270 | 18.09        | 19.76     | 69 612 | 54.81     | 1 388 335 | 50.61        |
| 50-51                                                                      | 68 977 | 1 298 | 18.81        | 19.12     | 68 328 | 52.64     | 1 318 723 | 52.30        |
| 51-52                                                                      | 67 679 | 1 338 | 19.77        | 18.48     | 67 010 | 50.08     | 1 250 395 | 54.11        |
| 52-53                                                                      | 66 311 | 1 406 | 21.19        | 17.84     | 65 638 | 46.68     | 1 183 385 | 56.05        |
| 53-54                                                                      | 64 935 | 1 495 | 23.04        | 17.21     | 64 187 | 42.93     | 1 117 747 | 58.11        |
| 54-55                                                                      | 63 440 | 1 589 | 25.05        | 16.61     | 62 645 | 39.42     | 1 053 560 | 60.20        |
| 55-56                                                                      | 61 831 | 1 693 | 27.36        | 16.02     | 61 004 | 36.03     | 990 915   | 62.42        |
| 56-57                                                                      | 60 158 | 1 780 | 29.60        | 15.46     | 59 268 | 33.30     | 929 911   | 64.68        |
| 57-58                                                                      | 58 378 | 1 830 | 31.35        | 14.91     | 57 463 | 31.40     | 870 643   | 67.07        |
| 58-59                                                                      | 56 518 | 1 850 | 32.72        | 14.38     | 55 623 | 30.07     | 813 180   | 69.54        |
| 59-60                                                                      | 54 698 | 1 873 | 34.21        | 13.85     | 53 761 | 28.70     | 757 557   | 72.20        |
| 60-61                                                                      | 52 825 | 1 889 | 35.75        | 13.32     | 51 881 | 27.16     | 703 796   | 75.08        |
| 61-62                                                                      | 50 936 | 1 915 | 37.60        | 12.80     | 49 979 | 26.10     | 651 915   | 78.13        |
| 62-63                                                                      | 49 021 | 1 966 | 40.11        | 12.28     | 48 038 | 24.43     | 601 936   | 81.43        |
| 63-64                                                                      | 47 055 | 2 032 | 43.18        | 11.77     | 46 039 | 22.66     | 553 898   | 84.96        |
| 64-65                                                                      | 45 023 | 2 090 | 46.41        | 11.28     | 43 978 | 21.04     | 507 859   | 88.65        |
| 65-66                                                                      | 42 933 | 2 144 | 49.96        | 10.80     | 41 861 | 19.52     | 463 881   | 92.59        |
| 66-67                                                                      | 40 789 | 2 181 | 53.47        | 10.35     | 39 698 | 18.20     | 422 020   | 96.62        |
| 67-68                                                                      | 38 608 | 2 186 | 56.62        | 9.90      | 37 515 | 17.16     | 382 322   | 101.01       |
| 68-69                                                                      | 36 422 | 2 169 | 59.53        | 9.47      | 35 338 | 16.29     | 344 807   | 105.60       |
| 69-70                                                                      | 34 253 | 2 147 | 62.69        | 9.03      | 33 180 | 15.45     | 309 469   | 110.74       |
| 70-71                                                                      | 32 106 | 2 117 | 65.93        | 8.61      | 31 048 | 14.67     | 276 289   | 116.14       |
| 71-72                                                                      | 29 989 | 2 095 | 69.86        | 8.18      | 28 942 | 13.81     | 245 241   | 122.25       |
| 72-73                                                                      | 27 894 | 2 094 | 75.06        | 7.75      | 26 847 | 12.82     | 216 299   | 129.03       |
| 73-74                                                                      | 25 800 | 2 102 | 81.48        | 7.34      | 24 749 | 11.77     | 189 452   | 136.24       |
| 74-75                                                                      | 23 698 | 2 098 | 88.56        | 6.95      | 22 649 | 10.80     | 164 703   | 143.88       |
| 75-76                                                                      | 21 600 | 2 073 | 95.96        | 6.58      | 20 563 | 9.92      | 142 054   | 151.98       |
| 76-77                                                                      | 19 527 | 2 028 | 103.84       | 6.22      | 18 513 | 9.13      | 121 491   | 160.77       |
| 77-78                                                                      | 17 499 | 1 964 | 112.28       | 5.88      | 16 517 | 8.41      | 102 978   | 170.07       |
| 78-79                                                                      | 15 535 | 1 884 | 121.22       | 5.57      | 14 593 | 7.75      | 86 461    | 179.53       |
| 79-80                                                                      | 13 651 | 1 782 | 130.60       | 5.26      | 12 760 | 7.16      | 71 868    | 190.11       |
| 80-81                                                                      | 11 869 | 1 667 | 140.39       | 4.98      | 11 035 | 6.62      | 59 108    | 200.80       |
| 81-82                                                                      | 10 202 | 1 536 | 150.58       | 4.71      | 9 434  | 6.14      | 48 073    | 212.31       |
| 82-83                                                                      | 8 666  | 1 397 | 161.19       | 4.46      | 7 968  | 5.70      | 38 639    | 224.23       |
| 83-84                                                                      | 7 269  | 1 252 | 172.26       | 4.22      | 6 613  | 5.31      | 30 671    | 236.97       |
| 84-85                                                                      | 6 017  | 1 106 | 183.79       | 3.99      | 5 464  | 4.94      | 24 028    | 250.63       |
| 85-86                                                                      | 4 911  | 962   | 195.82       | 3.78      | 4 430  | 4.61      | 18 564    | 264.55       |
| 86-87                                                                      | 3 949  | 822   | 208.34       | 3.58      | 3 538  | 4.30      | 14 134    | 279.33       |
| 87-88                                                                      | 3 127  | 692   | 221.30       | 3.39      | 2 781  | 4.02      | 10 596    | 294.99       |
| 88-89                                                                      | 2 435  | 572   | 234.69       | 3.21      | 2 149  | 3.76      | 7 815     | 311.53       |
| 89-90                                                                      | 1 863  | 463   | 248.51       | 3.04      | 1 632  | 3.52      | 5 666     | 328.95       |
| 90-91                                                                      | 1 400  | 366   | 261.89       | 2.88      | 1 217  | 3.32      | 4 034     | 347.22       |
| 91-92                                                                      | 1 031  | 286   | 276.61       | 2.73      | 891    | 3.12      | 2 817     | 366.30       |
| 92-93                                                                      | 748    | 219   | 292.14       | 2.58      | 638    | 2.92      | 1 926     | 387.60       |
| 93-94                                                                      | 529    | 163   | 308.53       | 2.44      | 448    | 2.74      | 1 288     | 409.84       |
| 94-95                                                                      | 366    | 119   | 325.83       | 2.30      | 306    | 2.57      | 840       | 434.78       |
| 95-96                                                                      | 247    | 85    | 344.07       | 2.17      | 204    | 2.41      | 534       | 460.83       |
| 96-97                                                                      | 162    | 59    | 363.32       | 2.04      | 132    | 2.25      | 330       | 490.20       |
| 97-98                                                                      | 103    | 39    | 383.62       | 1.92      | 83     | 2.11      | 198       | 520.83       |
| 98-99                                                                      | 61     | 26    | 405.03       | 1.81      | 51     | 1.97      | 115       | 552.49       |
| 99-100                                                                     | 38     | 16    | 427.60       | 1.70      | 30     | 1.84      | 64        | 588.24       |
| 100-101                                                                    | 22     | 10    | 451.40       | 1.59      | 17     | 1.72      | 34        | 628.93       |
| 101-102                                                                    | 12     | 6     | 476.19       | 1.49      | 9      | 1.60      | 17        | 671.14       |
| 102-103                                                                    | 6      | 3     | 502.93       | 1.40      | 5      | 1.49      | 8         | 714.29       |
| 103-104                                                                    | 3      | 2     | 530.80       | 1.31      | 2      | 1.38      | 3         | 763.36       |
| 104-105                                                                    | 1      | 1     | 560.15       | 1.23      | 1      | 1.29      | 1         | 819.67       |

TABLE 24

## LIFE TABLE FOR FOREIGN-BORN WHITE MALES

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (3,179,851), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE<br>INTERVAL.                                    | OF 100,000 MALES ALIVE<br>AT EXACT AGE 5:        |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males at Age 5 were Added Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |               |           |  |            |              |
|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------|-----------|--|------------|--------------|
| Months.                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  | Monthly rate. | In years. |  | Per month. | Annual rate. |
| 0-1                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |               |           |  |            |              |
| 1-2                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |               |           |  |            |              |
| 2-3                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |               |           |  |            |              |
| 3-4                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |               |           |  |            |              |
| 4-5                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |               |           |  |            |              |
| 5-6                                                                | There are two important reasons for beginning the life tables for foreign-born whites at age 5: First, the proportion of children under 5 years of age among foreign-born whites is so much smaller than among other classes of the population that mortality rates deduced therefrom are not reliable; second, the deaths among whites of unknown nativity must be distributed among deaths of native whites and foreign-born whites, and any error in the choice of the method of distribution would materially affect mortality rates under 5 years of age among the foreign-born whites. |  |               |           |  |            |              |
| 6-7                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |               |           |  |            |              |
| 7-8                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |               |           |  |            |              |
| 8-9                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |               |           |  |            |              |
| 9-10                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |               |           |  |            |              |
| 10-11                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |               |           |  |            |              |
| 11-12                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |               |           |  |            |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |       |              |           |        |           |              |       |
|------------------------------------------------------------------|---------|-------|--------------|-----------|--------|-----------|--------------|-------|
| Years.                                                           |         |       | Annual rate. | In years. |        | Per year. | Annual rate. |       |
| 0-1                                                              |         |       |              |           |        |           |              |       |
| 1-2                                                              |         |       |              |           |        |           |              |       |
| 2-3                                                              |         |       |              |           |        |           |              |       |
| 3-4                                                              |         |       |              |           |        |           |              |       |
| 4-5                                                              |         |       |              |           |        |           |              |       |
| 5-6                                                              | 100 000 | 576   | 5.76         | 51.24     | 99 712 | 173.11    | 5 423 811    | 18.44 |
| 6-7                                                              | 99 424  | 454   | 4.57         | 53.55     | 99 197 | 218.50    | 5 324 099    | 18.67 |
| 7-8                                                              | 98 970  | 373   | 3.76         | 52.79     | 98 783 | 264.83    | 5 224 902    | 18.94 |
| 8-9                                                              | 98 597  | 314   | 3.18         | 51.99     | 98 440 | 313.50    | 5 126 119    | 19.23 |
| 9-10                                                             | 98 283  | 271   | 2.76         | 51.16     | 98 148 | 362.17    | 5 027 679    | 19.55 |
| 10-11                                                            | 98 012  | 242   | 2.47         | 50.30     | 97 891 | 404.51    | 4 929 531    | 19.88 |
| 11-12                                                            | 97 770  | 228   | 2.33         | 49.42     | 97 656 | 428.32    | 4 831 640    | 20.23 |
| 12-13                                                            | 97 542  | 229   | 2.34         | 48.53     | 97 427 | 425.45    | 4 733 981    | 20.61 |
| 13-14                                                            | 97 313  | 244   | 2.50         | 47.65     | 97 191 | 398.32    | 4 636 557    | 20.99 |
| 14-15                                                            | 97 069  | 263   | 2.71         | 46.76     | 96 938 | 368.59    | 4 539 366    | 21.39 |
| 15-16                                                            | 96 806  | 280   | 2.89         | 45.89     | 96 666 | 345.24    | 4 442 428    | 21.79 |
| 16-17                                                            | 96 526  | 326   | 3.38         | 45.02     | 96 363 | 295.59    | 4 345 762    | 22.21 |
| 17-18                                                            | 96 200  | 365   | 4.01         | 44.17     | 96 008 | 219.37    | 4 249 399    | 22.64 |
| 18-19                                                            | 95 815  | 432   | 4.51         | 43.35     | 95 599 | 221.29    | 4 153 391    | 23.07 |
| 19-20                                                            | 95 363  | 461   | 4.83         | 42.54     | 95 153 | 206.41    | 4 057 792    | 23.51 |
| 20-21                                                            | 94 922  | 484   | 5.10         | 41.75     | 94 680 | 195.62    | 3 962 639    | 23.95 |
| 21-22                                                            | 94 438  | 493   | 5.22         | 40.96     | 94 192 | 191.06    | 3 867 959    | 24.41 |
| 22-23                                                            | 93 945  | 488   | 5.20         | 40.17     | 93 701 | 192.01    | 3 773 767    | 24.89 |
| 23-24                                                            | 93 437  | 479   | 5.12         | 39.38     | 93 217 | 194.61    | 3 680 066    | 25.39 |
| 24-25                                                            | 92 978  | 473   | 5.08         | 38.58     | 92 742 | 196.07    | 3 586 849    | 25.92 |
| 25-26                                                            | 92 505  | 468   | 5.06         | 37.77     | 92 271 | 197.16    | 3 494 107    | 26.48 |
| 26-27                                                            | 92 037  | 468   | 5.09         | 36.96     | 91 803 | 196.16    | 3 401 836    | 27.06 |
| 27-28                                                            | 91 569  | 476   | 5.19         | 36.15     | 91 331 | 191.87    | 3 310 033    | 27.66 |
| 28-29                                                            | 91 093  | 489   | 5.37         | 35.33     | 90 819 | 185.79    | 3 218 703    | 28.30 |
| 29-30                                                            | 90 604  | 505   | 5.57         | 34.52     | 90 352 | 178.91    | 3 127 853    | 28.97 |
| 30-31                                                            | 90 099  | 522   | 5.80         | 33.71     | 89 838 | 172.10    | 3 037 501    | 29.66 |
| 31-32                                                            | 89 577  | 518   | 6.12         | 32.91     | 89 303 | 162.96    | 2 947 663    | 30.39 |
| 32-33                                                            | 89 029  | 583   | 6.55         | 32.11     | 88 737 | 152.21    | 2 858 360    | 31.14 |
| 33-34                                                            | 88 446  | 622   | 7.03         | 31.31     | 88 135 | 141.70    | 2 769 623    | 31.94 |
| 34-35                                                            | 87 824  | 662   | 7.54         | 30.53     | 87 493 | 132.16    | 2 681 488    | 32.75 |
| 35-36                                                            | 87 162  | 706   | 8.10         | 29.76     | 86 809 | 122.96    | 2 593 995    | 33.60 |
| 36-37                                                            | 86 456  | 746   | 8.63         | 29.00     | 86 083 | 115.39    | 2 507 186    | 34.48 |
| 37-38                                                            | 85 710  | 781   | 9.11         | 28.25     | 85 319 | 109.24    | 2 421 103    | 35.40 |
| 38-39                                                            | 84 929  | 812   | 9.56         | 27.50     | 84 523 | 104.09    | 2 335 784    | 36.36 |
| 39-40                                                            | 84 117  | 845   | 10.04        | 26.76     | 83 695 | 99.05     | 2 251 261    | 37.37 |
| 40-41                                                            | 83 272  | 876   | 10.53        | 26.03     | 82 834 | 94.56     | 2 167 566    | 38.42 |
| 41-42                                                            | 82 396  | 913   | 11.08        | 25.30     | 81 939 | 89.75     | 2 084 732    | 39.53 |
| 42-43                                                            | 81 483  | 956   | 11.73        | 24.58     | 81 005 | 84.73     | 2 002 793    | 40.68 |
| 43-44                                                            | 80 527  | 1 002 | 12.45        | 23.87     | 80 026 | 79.87     | 1 921 788    | 41.89 |
| 44-45                                                            | 79 525  | 1 049 | 13.20        | 23.16     | 79 000 | 75.31     | 1 841 762    | 43.18 |



## IN THE ORIGINAL REGISTRATION STATES: 1910.

## TABLE 24

REPORTED DEATHS IN 1909 (50,282), IN 1910 (53,946), AND IN 1911 (54,775).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 MALES ALIVE AT EXACT AGE 5:     |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males at Age 5 were Added Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 78 176 | 1 100 | 14.01        | 22.16     | 77 926 | 70.84     | 1 762 762 | 44.52        |
| 46-47                                                                      | 77 376 | 1 145 | 14.80        | 21.77     | 76 801 | 67.08     | 1 681 836 | 45.93        |
| 47-48                                                                      | 76 231 | 1 184 | 15.53        | 21.09     | 75 639 | 63.88     | 1 608 032 | 47.12        |
| 48-49                                                                      | 75 047 | 1 219 | 16.24        | 20.42     | 74 438 | 61.06     | 1 532 393 | 48.97        |
| 49-50                                                                      | 73 828 | 1 258 | 17.01        | 19.75     | 73 199 | 58.19     | 1 457 955 | 50.63        |
| 50-51                                                                      | 72 570 | 1 301 | 17.92        | 19.08     | 71 919 | 55.28     | 1 384 756 | 52.41        |
| 51-52                                                                      | 71 269 | 1 350 | 18.94        | 18.42     | 70 594 | 52.29     | 1 312 837 | 54.29        |
| 52-53                                                                      | 69 919 | 1 411 | 20.19        | 17.77     | 69 213 | 49.05     | 1 242 243 | 56.27        |
| 53-54                                                                      | 68 508 | 1 486 | 21.69        | 17.12     | 67 765 | 45.60     | 1 173 030 | 58.41        |
| 54-55                                                                      | 67 022 | 1 569 | 23.41        | 16.49     | 66 238 | 42.22     | 1 105 265 | 60.64        |
| 55-56                                                                      | 65 453 | 1 662 | 25.40        | 15.87     | 64 622 | 38.88     | 1 039 027 | 63.01        |
| 56-57                                                                      | 63 791 | 1 761 | 27.65        | 15.27     | 62 909 | 35.66     | 974 405   | 65.49        |
| 57-58                                                                      | 62 027 | 1 859 | 29.97        | 14.70     | 61 097 | 32.87     | 911 496   | 68.03        |
| 58-59                                                                      | 60 168 | 1 939 | 32.22        | 14.13     | 59 199 | 30.53     | 850 399   | 70.77        |
| 59-60                                                                      | 58 229 | 2 010 | 34.53        | 13.59     | 57 224 | 28.47     | 791 200   | 73.58        |
| 60-61                                                                      | 56 219 | 2 070 | 36.81        | 13.06     | 55 184 | 26.66     | 733 976   | 76.57        |
| 61-62                                                                      | 54 149 | 2 121 | 39.19        | 12.54     | 53 088 | 25.03     | 678 792   | 79.74        |
| 62-63                                                                      | 52 028 | 2 179 | 41.87        | 12.03     | 50 938 | 23.38     | 625 704   | 83.13        |
| 63-64                                                                      | 49 849 | 2 236 | 44.86        | 11.53     | 48 731 | 21.79     | 574 766   | 86.73        |
| 64-65                                                                      | 47 613 | 2 281 | 47.91        | 11.05     | 46 472 | 20.37     | 526 035   | 90.50        |
| 65-66                                                                      | 45 332 | 2 315 | 51.05        | 10.58     | 44 175 | 19.08     | 479 563   | 94.52        |
| 66-67                                                                      | 43 017 | 2 338 | 54.36        | 10.12     | 41 848 | 17.90     | 435 388   | 98.81        |
| 67-68                                                                      | 40 679 | 2 355 | 57.90        | 9.67      | 39 502 | 16.77     | 393 540   | 103.41       |
| 68-69                                                                      | 38 324 | 2 368 | 61.78        | 9.24      | 37 140 | 15.68     | 354 038   | 108.23       |
| 69-70                                                                      | 35 956 | 2 374 | 66.01        | 8.81      | 34 769 | 14.65     | 316 898   | 113.51       |
| 70-71                                                                      | 33 582 | 2 377 | 70.79        | 8.40      | 32 393 | 13.63     | 282 129   | 119.05       |
| 71-72                                                                      | 31 205 | 2 369 | 75.92        | 8.00      | 30 020 | 12.67     | 249 736   | 125.00       |
| 72-73                                                                      | 28 836 | 2 342 | 81.21        | 7.62      | 27 665 | 11.81     | 219 716   | 131.23       |
| 73-74                                                                      | 26 491 | 2 295 | 86.63        | 7.25      | 25 317 | 11.04     | 192 051   | 137.93       |
| 74-75                                                                      | 24 199 | 2 240 | 92.56        | 6.89      | 23 079 | 10.30     | 166 704   | 145.14       |
| 75-76                                                                      | 21 959 | 2 175 | 99.04        | 6.54      | 20 872 | 9.60      | 143 625   | 152.91       |
| 76-77                                                                      | 19 784 | 2 095 | 105.89       | 6.20      | 18 737 | 8.94      | 122 753   | 161.29       |
| 77-78                                                                      | 17 689 | 2 002 | 113.21       | 5.88      | 16 688 | 8.34      | 104 016   | 170.07       |
| 78-79                                                                      | 15 687 | 1 903 | 121.30       | 5.57      | 14 735 | 7.74      | 87 328    | 179.53       |
| 79-80                                                                      | 13 784 | 1 800 | 130.60       | 5.27      | 12 884 | 7.16      | 72 593    | 189.75       |
| 80-81                                                                      | 11 984 | 1 699 | 141.76       | 4.98      | 11 134 | 6.55      | 59 709    | 200.80       |
| 81-82                                                                      | 10 285 | 1 580 | 153.62       | 4.72      | 9 495  | 6.01      | 48 575    | 211.86       |
| 82-83                                                                      | 8 705  | 1 430 | 161.32       | 4.49      | 7 990  | 5.59      | 39 080    | 223.72       |
| 83-84                                                                      | 7 275  | 1 262 | 173.37       | 4.27      | 6 614  | 5.27      | 31 090    | 234.19       |
| 84-85                                                                      | 6 013  | 1 100 | 183.03       | 4.07      | 5 463  | 4.96      | 24 446    | 245.70       |
| 85-86                                                                      | 4 913  | 950   | 193.38       | 3.86      | 4 438  | 4.67      | 18 983    | 259.07       |
| 86-87                                                                      | 3 963  | 812   | 204.93       | 3.67      | 3 557  | 4.38      | 14 545    | 272.48       |
| 87-88                                                                      | 3 151  | 685   | 217.30       | 3.49      | 2 808  | 4.10      | 10 988    | 286.53       |
| 88-89                                                                      | 2 466  | 568   | 230.39       | 3.32      | 2 182  | 3.84      | 8 180     | 301.20       |
| 89-90                                                                      | 1 898  | 463   | 243.84       | 3.16      | 1 667  | 3.60      | 5 998     | 316.46       |
| 90-91                                                                      | 1 435  | 369   | 257.10       | 3.02      | 1 251  | 3.39      | 4 331     | 331.13       |
| 91-92                                                                      | 1 066  | 287   | 269.58       | 2.89      | 922    | 3.21      | 3 080     | 346.02       |
| 92-93                                                                      | 779    | 219   | 281.01       | 2.77      | 669    | 3.06      | 2 158     | 361.01       |
| 93-94                                                                      | 560    | 163   | 291.52       | 2.66      | 478    | 2.93      | 1 489     | 375.91       |
| 94-95                                                                      | 397    | 120   | 301.68       | 2.55      | 337    | 2.81      | 1 011     | 392.16       |
| 95-96                                                                      | 277    | 87    | 312.48       | 2.43      | 234    | 2.70      | 674       | 411.52       |
| 96-97                                                                      | 190    | 61    | 325.05       | 2.31      | 159    | 2.58      | 440       | 432.90       |
| 97-98                                                                      | 129    | 44    | 340.36       | 2.18      | 107    | 2.44      | 281       | 458.72       |
| 98-99                                                                      | 85     | 31    | 359.07       | 2.04      | 70     | 2.28      | 174       | 490.20       |
| 99-100                                                                     | 54     | 20    | 381.38       | 1.90      | 44     | 2.12      | 104       | 526.32       |
| 100-101                                                                    | 34     | 14    | 407.02       | 1.77      | 27     | 1.96      | 60        | 564.97       |
| 101-102                                                                    | 20     | 9     | 435.50       | 1.64      | 16     | 1.80      | 33        | 609.76       |
| 102-103                                                                    | 11     | 5     | 466.17       | 1.51      | 9      | 1.65      | 17        | 662.25       |
| 103-104                                                                    | 6      | 3     | 498.53       | 1.40      | 5      | 1.51      | 8         | 714.29       |
| 104-105                                                                    | 3      | 2     | 532.34       | 1.29      | 2      | 1.38      | 3         | 775.19       |
| 105-106                                                                    | 1      | 1     | 567.17       | 1.19      | 1      | 1.26      | 1         | 840.34       |

TABLE 25

## LIFE TABLE FOR FOREIGN-BORN WHITE FEMALES

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (2,257,302), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

| AGE INTERVAL.                              | OF 100,000 FEMALES ALIVE AT EXACT AGE 5:   |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females at Age 5 were Added Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                             | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                           | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                           | $L_x/d_x$                             | $T_x$                                                              | $1000/L_x \cdot T_x$                                                                         |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                               | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

There are two important reasons for beginning the life tables for foreign-born whites at age 5: First, the proportion of children under 5 years of age among foreign-born whites is so much smaller than among other classes of the population that mortality rates deduced therefrom are not reliable; second, the deaths among whites of unknown nativity must be distributed among deaths of native whites and foreign-born whites, and any error in the choice of the method of distribution would materially affect mortality rates under 5 years of age among the foreign-born whites.

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |     |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|-----|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |     | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              |         |     |              |           |        |           |           |              |
| 1-2                                                              |         |     |              |           |        |           |           |              |
| 2-3                                                              |         |     |              |           |        |           |           |              |
| 3-4                                                              |         |     |              |           |        |           |           |              |
| 4-5                                                              |         |     |              |           |        |           |           |              |
| 5-6                                                              | 100 000 | 774 | 7.74         | 54.21     | 99 613 | 128.70    | 5 420 915 | 18.45        |
| 6-7                                                              | 99 226  | 570 | 5.74         | 53.63     | 98 911 | 173.58    | 5 321 302 | 18.65        |
| 7-8                                                              | 98 656  | 427 | 4.33         | 52.94     | 98 443 | 230.55    | 5 222 361 | 18.89        |
| 8-9                                                              | 98 229  | 333 | 3.39         | 52.16     | 98 063 | 294.48    | 5 123 918 | 19.17        |
| 9-10                                                             | 97 896  | 275 | 2.81         | 51.34     | 97 759 | 355.49    | 5 025 855 | 19.48        |
| 10-11                                                            | 97 621  | 245 | 2.51         | 50.48     | 97 498 | 397.95    | 4 928 096 | 19.81        |
| 11-12                                                            | 97 376  | 236 | 2.42         | 49.61     | 97 258 | 412.11    | 4 830 598 | 20.16        |
| 12-13                                                            | 97 140  | 241 | 2.48         | 48.73     | 97 019 | 402.57    | 4 733 310 | 20.52        |
| 13-14                                                            | 96 899  | 257 | 2.65         | 47.85     | 96 770 | 376.54    | 4 636 321 | 20.90        |
| 14-15                                                            | 96 642  | 276 | 2.86         | 46.97     | 96 504 | 349.65    | 4 539 551 | 21.29        |
| 15-16                                                            | 96 366  | 296 | 3.07         | 46.11     | 96 218 | 325.06    | 4 443 047 | 21.69        |
| 16-17                                                            | 96 070  | 328 | 3.41         | 45.25     | 95 906 | 292.40    | 4 346 829 | 22.10        |
| 17-18                                                            | 95 742  | 368 | 3.85         | 44.40     | 95 558 | 259.67    | 4 250 923 | 22.52        |
| 18-19                                                            | 95 374  | 407 | 4.27         | 43.57     | 95 170 | 233.83    | 4 155 365 | 22.95        |
| 19-20                                                            | 94 967  | 438 | 4.61         | 42.75     | 94 748 | 216.32    | 4 060 195 | 23.39        |
| 20-21                                                            | 94 529  | 462 | 4.89         | 41.95     | 94 298 | 204.11    | 3 965 447 | 23.84        |
| 21-22                                                            | 94 067  | 484 | 5.15         | 41.15     | 93 825 | 193.85    | 3 871 149 | 24.30        |
| 22-23                                                            | 93 583  | 506 | 5.40         | 40.36     | 93 330 | 184.45    | 3 777 324 | 24.78        |
| 23-24                                                            | 93 077  | 526 | 5.65         | 39.58     | 92 814 | 176.45    | 3 683 994 | 25.27        |
| 24-25                                                            | 92 551  | 546 | 5.91         | 38.80     | 92 278 | 169.01    | 3 591 180 | 25.77        |
| 25-26                                                            | 92 005  | 568 | 6.17         | 38.03     | 91 721 | 161.48    | 3 498 902 | 26.30        |
| 26-27                                                            | 91 437  | 587 | 6.42         | 37.26     | 91 143 | 155.27    | 3 407 181 | 26.84        |
| 27-28                                                            | 90 850  | 606 | 6.67         | 36.50     | 90 547 | 149.42    | 3 316 038 | 27.40        |
| 28-29                                                            | 90 244  | 624 | 6.92         | 35.74     | 89 932 | 144.12    | 3 225 191 | 27.98        |
| 29-30                                                            | 89 620  | 645 | 7.19         | 34.99     | 89 298 | 138.45    | 3 135 559 | 28.58        |
| 30-31                                                            | 88 975  | 666 | 7.49         | 34.24     | 88 642 | 133.10    | 3 046 261 | 29.21        |
| 31-32                                                            | 88 309  | 691 | 7.83         | 33.49     | 87 963 | 127.30    | 2 957 619 | 29.86        |
| 32-33                                                            | 87 618  | 717 | 8.18         | 32.75     | 87 260 | 121.70    | 2 869 656 | 30.53        |
| 33-34                                                            | 86 901  | 740 | 8.52         | 32.02     | 86 531 | 116.93    | 2 782 396 | 31.23        |
| 34-35                                                            | 86 161  | 764 | 8.86         | 31.29     | 85 779 | 112.28    | 2 695 865 | 31.96        |
| 35-36                                                            | 85 397  | 785 | 9.20         | 30.56     | 85 005 | 108.29    | 2 610 086 | 32.72        |
| 36-37                                                            | 84 612  | 804 | 9.50         | 29.84     | 84 210 | 104.74    | 2 525 081 | 33.51        |
| 37-38                                                            | 83 808  | 819 | 9.78         | 29.12     | 83 398 | 101.83    | 2 440 871 | 34.34        |
| 38-39                                                            | 82 989  | 835 | 10.05        | 28.41     | 82 572 | 98.89     | 2 357 473 | 35.20        |
| 39-40                                                            | 82 154  | 852 | 10.37        | 27.69     | 81 728 | 95.92     | 2 274 901 | 36.11        |
| 40-41                                                            | 81 302  | 874 | 10.76        | 26.98     | 80 865 | 92.52     | 2 193 173 | 37.06        |
| 41-42                                                            | 80 428  | 893 | 11.10        | 26.26     | 79 981 | 89.56     | 2 112 308 | 38.08        |
| 42-43                                                            | 79 535  | 902 | 11.33        | 25.55     | 79 084 | 87.68     | 2 032 327 | 39.14        |
| 43-44                                                            | 78 623  | 905 | 11.51        | 24.84     | 78 181 | 86.39     | 1 953 243 | 40.26        |
| 44-45                                                            | 77 728  | 912 | 11.74        | 24.12     | 77 272 | 84.73     | 1 875 062 | 41.46        |

## IN THE ORIGINAL REGISTRATION STATES: 1901.

## TABLE 25

REPORTED DEATHS IN 1900 (40,739), IN 1901 (40,923), AND IN 1902 (38,031).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 FEMALES ALIVE AT EXACT AGE 5:   |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females at Age 5 were Added Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                             | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                           | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                           | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                               | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 76 816 | 921   | 11.99        | 23.40     | 76 355 | 82.90     | 1 797 790 | 42.74        |
| 46-47                                                                      | 75 895 | 946   | 12.47        | 22.68     | 75 422 | 79.73     | 1 721 435 | 44.09        |
| 47-48                                                                      | 74 949 | 994   | 13.26        | 21.96     | 74 452 | 74.90     | 1 646 013 | 45.54        |
| 48-49                                                                      | 73 955 | 1 055 | 14.27        | 21.25     | 73 427 | 69.60     | 1 571 561 | 47.06        |
| 49-50                                                                      | 72 900 | 1 113 | 15.26        | 20.55     | 72 343 | 65.00     | 1 498 134 | 48.66        |
| 50-51                                                                      | 71 787 | 1 166 | 16.25        | 19.86     | 71 204 | 61.07     | 1 425 791 | 50.35        |
| 51-52                                                                      | 70 621 | 1 226 | 17.36        | 19.18     | 70 008 | 57.10     | 1 354 587 | 52.11        |
| 52-53                                                                      | 69 395 | 1 297 | 18.69        | 18.51     | 68 747 | 53.00     | 1 284 579 | 54.02        |
| 53-54                                                                      | 68 098 | 1 383 | 20.30        | 17.85     | 67 407 | 48.74     | 1 215 832 | 56.02        |
| 54-55                                                                      | 66 715 | 1 474 | 22.10        | 17.21     | 65 978 | 44.76     | 1 148 425 | 58.11        |
| 55-56                                                                      | 65 241 | 1 577 | 24.18        | 16.59     | 64 453 | 40.87     | 1 082 447 | 60.28        |
| 56-57                                                                      | 63 664 | 1 671 | 26.24        | 15.99     | 62 829 | 37.60     | 1 017 994 | 62.54        |
| 57-58                                                                      | 61 993 | 1 734 | 27.98        | 15.41     | 61 126 | 35.25     | 955 165   | 64.89        |
| 58-59                                                                      | 60 259 | 1 774 | 29.43        | 14.84     | 59 372 | 33.47     | 891 039   | 67.39        |
| 59-60                                                                      | 58 485 | 1 812 | 30.99        | 14.27     | 57 579 | 31.78     | 834 667   | 70.08        |
| 60-61                                                                      | 56 673 | 1 846 | 32.56        | 13.71     | 55 750 | 30.20     | 777 088   | 72.94        |
| 61-62                                                                      | 54 827 | 1 884 | 34.38        | 13.16     | 53 885 | 28.60     | 721 338   | 75.99        |
| 62-63                                                                      | 52 943 | 1 944 | 36.72        | 12.61     | 51 971 | 26.73     | 667 453   | 79.30        |
| 63-64                                                                      | 50 999 | 2 018 | 39.56        | 12.07     | 49 990 | 24.77     | 615 482   | 82.85        |
| 64-65                                                                      | 48 981 | 2 083 | 42.53        | 11.55     | 47 940 | 23.01     | 565 492   | 86.58        |
| 65-66                                                                      | 46 898 | 2 144 | 45.72        | 11.04     | 45 826 | 21.37     | 517 552   | 90.58        |
| 66-67                                                                      | 44 751 | 2 201 | 49.18        | 10.54     | 43 654 | 19.83     | 471 726   | 94.88        |
| 67-68                                                                      | 42 553 | 2 251 | 52.90        | 10.06     | 41 428 | 18.40     | 428 072   | 99.40        |
| 68-69                                                                      | 40 302 | 2 293 | 56.89        | 9.59      | 39 155 | 17.08     | 386 644   | 104.28       |
| 69-70                                                                      | 38 009 | 2 330 | 61.30        | 9.14      | 36 844 | 15.81     | 347 489   | 109.41       |
| 70-71                                                                      | 35 679 | 2 362 | 66.20        | 8.71      | 34 498 | 14.61     | 310 645   | 114.81       |
| 71-72                                                                      | 33 317 | 2 376 | 71.34        | 8.29      | 32 129 | 13.52     | 276 147   | 120.63       |
| 72-73                                                                      | 30 911 | 2 369 | 76.54        | 7.89      | 29 756 | 12.56     | 244 018   | 126.74       |
| 73-74                                                                      | 28 572 | 2 347 | 82.14        | 7.50      | 27 399 | 11.67     | 214 262   | 133.33       |
| 74-75                                                                      | 26 225 | 2 312 | 88.16        | 7.13      | 25 069 | 10.84     | 186 863   | 140.25       |
| 75-76                                                                      | 23 913 | 2 261 | 94.56        | 6.77      | 22 783 | 10.08     | 161 794   | 147.71       |
| 76-77                                                                      | 21 652 | 2 195 | 101.37       | 6.42      | 20 555 | 9.36      | 139 011   | 155.76       |
| 77-78                                                                      | 19 457 | 2 114 | 108.64       | 6.09      | 18 400 | 8.70      | 118 456   | 164.20       |
| 78-79                                                                      | 17 343 | 2 018 | 116.41       | 5.77      | 16 334 | 8.09      | 100 056   | 173.31       |
| 79-80                                                                      | 15 325 | 1 912 | 124.73       | 5.46      | 14 369 | 7.52      | 83 723    | 183.15       |
| 80-81                                                                      | 13 413 | 1 792 | 133.64       | 5.17      | 12 517 | 6.98      | 69 353    | 193.42       |
| 81-82                                                                      | 11 621 | 1 665 | 143.21       | 4.89      | 10 788 | 6.48      | 56 836    | 204.50       |
| 82-83                                                                      | 9 956  | 1 527 | 153.45       | 4.63      | 9 193  | 6.02      | 46 048    | 215.98       |
| 83-84                                                                      | 8 429  | 1 386 | 164.37       | 4.37      | 7 736  | 5.58      | 36 855    | 228.83       |
| 84-85                                                                      | 7 043  | 1 239 | 175.93       | 4.13      | 6 424  | 5.18      | 29 119    | 242.13       |
| 85-86                                                                      | 5 804  | 1 091 | 188.04       | 3.91      | 5 258  | 4.82      | 22 695    | 255.75       |
| 86-87                                                                      | 4 713  | 946   | 200.60       | 3.70      | 4 210  | 4.49      | 17 437    | 270.27       |
| 87-88                                                                      | 3 767  | 801   | 213.49       | 3.50      | 3 365  | 4.18      | 13 197    | 285.71       |
| 88-89                                                                      | 2 963  | 671   | 226.64       | 3.32      | 2 627  | 3.91      | 9 832     | 301.20       |
| 89-90                                                                      | 2 292  | 551   | 240.05       | 3.14      | 2 017  | 3.67      | 7 205     | 318.47       |
| 90-91                                                                      | 1 741  | 441   | 253.76       | 2.98      | 1 521  | 3.44      | 5 188     | 335.57       |
| 91-92                                                                      | 1 300  | 349   | 267.88       | 2.82      | 1 125  | 3.23      | 3 667     | 351.61       |
| 92-93                                                                      | 951    | 268   | 282.55       | 2.67      | 817    | 3.04      | 2 542     | 374.53       |
| 93-94                                                                      | 683    | 204   | 297.94       | 2.53      | 581    | 2.86      | 1 725     | 395.26       |
| 94-95                                                                      | 479    | 150   | 314.23       | 2.39      | 404    | 2.68      | 1 144     | 418.41       |
| 95-96                                                                      | 329    | 109   | 331.52       | 2.26      | 274    | 2.52      | 740       | 442.48       |
| 96-97                                                                      | 220    | 77    | 349.96       | 2.13      | 181    | 2.36      | 466       | 469.48       |
| 97-98                                                                      | 143    | 53    | 369.45       | 2.00      | 116    | 2.21      | 285       | 500.00       |
| 98-99                                                                      | 90     | 35    | 390.04       | 1.89      | 72     | 2.06      | 169       | 529.10       |
| 99-100                                                                     | 55     | 23    | 411.80       | 1.77      | 44     | 1.93      | 97        | 564.97       |
| 100-101                                                                    | 32     | 14    | 434.82       | 1.66      | 25     | 1.80      | 53        | 602.41       |
| 101-102                                                                    | 18     | 8     | 459.15       | 1.56      | 14     | 1.68      | 28        | 641.03       |
| 102-103                                                                    | 10     | 5     | 484.88       | 1.46      | 7      | 1.56      | 14        | 684.93       |
| 103-104                                                                    | 5      | 3     | 512.09       | 1.37      | 4      | 1.45      | 7         | 729.93       |
| 104-105                                                                    | 2      | 1     | 540.88       | 1.27      | 2      | 1.35      | 3         | 787.40       |
| 105-106                                                                    | 1      | 1     | 571.35       | 1.19      | 1      | 1.25      | 1         | 840.34       |

TABLE 26

## LIFE TABLE FOR FOREIGN-BORN WHITE FEMALES

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (2,833,324), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana. tables, are given on

| AGE<br>INTERVAL.                                    | OF 100,000 FEMALES ALIVE<br>AT EXACT AGE 5:      |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females at Age 5 were Added Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                          | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                     | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                              | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                                  | 7                                           | 8                                                                             | 9                                                                                                               |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

There are two important reasons for beginning the life tables for foreign-born whites at age 5: First, the proportion of children under 5 years of age among foreign-born whites is so much smaller than among other classes of the population that mortality rates deduced therefrom are not reliable; second, the deaths among whites of unknown nativity must be distributed among deaths of native whites and foreign-born whites, and any error in the choice of the method of distribution would materially affect mortality rates under 5 years of age among the foreign-born whites.

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |     |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|-----|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |     | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              |         |     |              |           |        |           |           |              |
| 1-2                                                              |         |     |              |           |        |           |           |              |
| 2-3                                                              |         |     |              |           |        |           |           |              |
| 3-4                                                              |         |     |              |           |        |           |           |              |
| 4-5                                                              |         |     |              |           |        |           |           |              |
| 5-6                                                              | 100 000 | 498 | 4.98         | 56.30     | 99 751 | 200.30    | 5 630 432 | 17.76        |
| 6-7                                                              | 99 502  | 396 | 3.97         | 55.58     | 99 304 | 250.77    | 5 530 681 | 17.99        |
| 7-8                                                              | 99 106  | 319 | 3.22         | 54.80     | 98 917 | 310.18    | 5 431 377 | 18.25        |
| 8-9                                                              | 98 787  | 263 | 2.67         | 53.98     | 98 656 | 375.12    | 5 332 430 | 18.53        |
| 9-10                                                             | 98 524  | 226 | 2.30         | 53.12     | 98 411 | 435.45    | 5 233 774 | 18.83        |
| 10-11                                                            | 98 298  | 205 | 2.09         | 52.21     | 98 195 | 479.00    | 5 135 363 | 19.11        |
| 11-12                                                            | 98 093  | 199 | 2.03         | 51.35     | 97 993 | 492.43    | 5 037 168 | 19.47        |
| 12-13                                                            | 97 894  | 205 | 2.09         | 50.45     | 97 792 | 477.03    | 4 939 175 | 19.82        |
| 13-14                                                            | 97 689  | 218 | 2.24         | 49.56     | 97 580 | 447.61    | 4 841 383 | 20.18        |
| 14-15                                                            | 97 471  | 238 | 2.44         | 48.67     | 97 352 | 409.04    | 4 743 803 | 20.55        |
| 15-16                                                            | 97 233  | 259 | 2.67         | 47.79     | 97 103 | 371.92    | 4 646 451 | 20.92        |
| 16-17                                                            | 96 974  | 285 | 2.94         | 46.91     | 96 831 | 339.76    | 4 549 348 | 21.32        |
| 17-18                                                            | 96 659  | 307 | 3.18         | 46.05     | 96 535 | 311.45    | 4 452 517 | 21.72        |
| 18-19                                                            | 96 382  | 326 | 3.37         | 45.19     | 96 219 | 295.15    | 4 355 982 | 22.13        |
| 19-20                                                            | 96 056  | 338 | 3.53         | 44.35     | 95 887 | 283.69    | 4 259 763 | 22.55        |
| 20-21                                                            | 95 718  | 319 | 3.65         | 43.50     | 95 543 | 273.76    | 4 163 876 | 22.99        |
| 21-22                                                            | 95 369  | 363 | 3.80         | 42.66     | 95 188 | 262.23    | 4 068 333 | 23.44        |
| 22-23                                                            | 95 006  | 381 | 4.02         | 41.82     | 94 816 | 248.86    | 3 973 145 | 23.91        |
| 23-24                                                            | 94 625  | 405 | 4.28         | 40.99     | 94 423 | 233.14    | 3 878 329 | 24.40        |
| 24-25                                                            | 94 220  | 426 | 4.53         | 40.16     | 94 007 | 220.67    | 3 783 906 | 24.90        |
| 25-26                                                            | 93 794  | 449 | 4.79         | 39.31     | 93 569 | 208.39    | 3 689 899 | 25.42        |
| 26-27                                                            | 93 345  | 469 | 5.02         | 38.53     | 93 110 | 198.53    | 3 596 330 | 25.95        |
| 27-28                                                            | 92 876  | 484 | 5.21         | 37.72     | 92 634 | 191.39    | 3 503 220 | 26.51        |
| 28-29                                                            | 92 392  | 497 | 5.39         | 36.91     | 92 144 | 185.40    | 3 410 586 | 27.09        |
| 29-30                                                            | 91 895  | 515 | 5.60         | 36.11     | 91 637 | 177.94    | 3 318 442 | 27.69        |
| 30-31                                                            | 91 380  | 531 | 5.81         | 35.31     | 91 113 | 170.62    | 3 226 805 | 28.32        |
| 31-32                                                            | 90 846  | 556 | 6.13         | 34.52     | 90 568 | 162.89    | 3 135 692 | 28.97        |
| 32-33                                                            | 90 290  | 582 | 6.44         | 33.73     | 89 999 | 154.64    | 3 045 121 | 29.65        |
| 33-34                                                            | 89 708  | 605 | 6.75         | 32.94     | 89 405 | 147.78    | 2 955 125 | 30.36        |
| 34-35                                                            | 89 103  | 630 | 7.06         | 32.16     | 88 788 | 140.93    | 2 865 720 | 31.09        |
| 35-36                                                            | 88 473  | 653 | 7.39         | 31.39     | 88 146 | 134.99    | 2 776 932 | 31.86        |
| 36-37                                                            | 87 820  | 674 | 7.67         | 30.62     | 87 483 | 129.80    | 2 688 786 | 32.66        |
| 37-38                                                            | 87 146  | 687 | 7.89         | 29.85     | 86 802 | 126.35    | 2 601 303 | 33.50        |
| 38-39                                                            | 86 459  | 700 | 8.09         | 29.08     | 86 109 | 123.01    | 2 514 501 | 34.39        |
| 39-40                                                            | 85 759  | 713 | 8.32         | 28.32     | 85 402 | 119.78    | 2 428 392 | 35.31        |
| 40-41                                                            | 85 046  | 727 | 8.55         | 27.55     | 84 682 | 116.48    | 2 342 990 | 36.30        |
| 41-42                                                            | 84 319  | 746 | 8.85         | 26.78     | 83 946 | 112.53    | 2 258 308 | 37.34        |
| 42-43                                                            | 83 573  | 775 | 9.27         | 26.02     | 83 185 | 107.31    | 2 174 362 | 38.43        |
| 43-44                                                            | 82 798  | 809 | 9.77         | 25.26     | 82 394 | 101.85    | 2 091 177 | 39.59        |
| 44-45                                                            | 81 989  | 845 | 10.31        | 24.50     | 81 566 | 96.53     | 2 008 783 | 40.82        |

## IN THE ORIGINAL REGISTRATION STATES: 1910.

TABLE 26

REPORTED DEATHS IN 1909 (43,756), IN 1910 (46,682), AND IN 1911 (46,854).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

| AGE<br>INTERVAL.                                    | OF 100,000 FEMALES ALIVE<br>AT EXACT AGE 5:      |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females at Age 5 were Added Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                          | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                     | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                              | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                                  | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 81 141 | 881   | 10.90        | 23.75     | 80 702 | 91.29     | 1 927 217 | 42.11        |
| 46-47                                                                      | 80 260 | 924   | 11.50        | 23.01     | 79 798 | 86.36     | 1 816 515 | 43.46        |
| 47-48                                                                      | 79 336 | 961   | 12.12        | 22.27     | 78 856 | 82.06     | 1 766 717 | 44.90        |
| 48-49                                                                      | 78 375 | 1 001 | 12.77        | 21.54     | 77 875 | 77.80     | 1 687 861 | 46.43        |
| 49-50                                                                      | 77 374 | 1 048 | 13.54        | 20.81     | 76 850 | 73.33     | 1 609 986 | 48.05        |
| 50-51                                                                      | 76 326 | 1 101 | 14.42        | 20.09     | 75 776 | 68.82     | 1 533 136 | 49.78        |
| 51-52                                                                      | 75 225 | 1 162 | 15.45        | 19.37     | 74 644 | 64.24     | 1 457 360 | 51.63        |
| 52-53                                                                      | 74 063 | 1 233 | 16.65        | 18.67     | 73 447 | 59.57     | 1 382 716 | 53.56        |
| 53-54                                                                      | 72 830 | 1 315 | 18.05        | 17.98     | 72 173 | 54.88     | 1 309 269 | 55.62        |
| 54-55                                                                      | 71 515 | 1 404 | 19.64        | 17.30     | 70 813 | 50.44     | 1 237 096 | 57.80        |
| 55-56                                                                      | 70 111 | 1 504 | 21.44        | 16.63     | 69 359 | 46.12     | 1 166 283 | 60.13        |
| 56-57                                                                      | 68 607 | 1 612 | 23.50        | 15.99     | 67 801 | 42.06     | 1 096 924 | 62.54        |
| 57-58                                                                      | 66 995 | 1 723 | 25.72        | 15.36     | 66 134 | 38.38     | 1 029 123 | 65.10        |
| 58-59                                                                      | 65 272 | 1 825 | 27.96        | 14.75     | 64 360 | 35.27     | 962 989   | 67.80        |
| 59-60                                                                      | 63 447 | 1 916 | 30.21        | 14.16     | 62 489 | 32.61     | 898 629   | 70.62        |
| 60-61                                                                      | 61 531 | 1 995 | 32.43        | 13.59     | 60 533 | 30.34     | 836 140   | 73.58        |
| 61-62                                                                      | 59 536 | 2 072 | 34.79        | 13.03     | 58 500 | 28.23     | 775 607   | 76.75        |
| 62-63                                                                      | 57 461 | 2 157 | 37.53        | 12.48     | 56 386 | 26.14     | 717 107   | 80.13        |
| 63-64                                                                      | 55 307 | 2 248 | 40.65        | 11.95     | 54 183 | 24.10     | 660 721   | 83.68        |
| 64-65                                                                      | 53 059 | 2 328 | 43.88        | 11.43     | 51 895 | 22.29     | 606 538   | 87.49        |
| 65-66                                                                      | 50 731 | 2 398 | 47.27        | 10.93     | 49 532 | 20.66     | 554 643   | 91.49        |
| 66-67                                                                      | 48 333 | 2 458 | 50.84        | 10.45     | 47 104 | 19.16     | 505 111   | 95.69        |
| 67-68                                                                      | 45 875 | 2 504 | 54.59        | 9.98      | 44 623 | 17.82     | 458 007   | 100.20       |
| 68-69                                                                      | 43 371 | 2 541 | 58.58        | 9.53      | 42 101 | 16.57     | 413 384   | 104.93       |
| 69-70                                                                      | 40 830 | 2 571 | 62.97        | 9.09      | 39 516 | 15.38     | 371 283   | 110.01       |
| 70-71                                                                      | 38 259 | 2 596 | 67.87        | 8.67      | 36 961 | 14.24     | 331 738   | 115.34       |
| 71-72                                                                      | 35 663 | 2 603 | 72.97        | 8.27      | 34 361 | 13.20     | 294 777   | 120.92       |
| 72-73                                                                      | 33 060 | 2 579 | 78.00        | 7.88      | 31 771 | 12.32     | 260 416   | 126.90       |
| 73-74                                                                      | 30 451 | 2 528 | 82.96        | 7.50      | 29 217 | 11.56     | 228 615   | 133.33       |
| 74-75                                                                      | 27 953 | 2 469 | 88.33        | 7.13      | 26 718 | 10.82     | 199 428   | 140.25       |
| 75-76                                                                      | 25 484 | 2 397 | 94.06        | 6.78      | 24 285 | 10.13     | 172 710   | 147.49       |
| 76-77                                                                      | 23 087 | 2 313 | 100.17       | 6.43      | 21 931 | 9.48      | 148 423   | 155.52       |
| 77-78                                                                      | 20 774 | 2 221 | 106.93       | 6.09      | 19 664 | 8.85      | 126 494   | 164.20       |
| 78-79                                                                      | 18 553 | 2 128 | 114.69       | 5.76      | 17 489 | 8.22      | 106 830   | 173.61       |
| 79-80                                                                      | 16 425 | 2 031 | 123.68       | 5.44      | 15 409 | 7.69      | 89 341    | 183.82       |
| 80-81                                                                      | 14 394 | 1 939 | 134.70       | 5.14      | 13 424 | 6.92      | 73 932    | 194.55       |
| 81-82                                                                      | 12 455 | 1 827 | 146.71       | 4.86      | 11 541 | 6.32      | 60 508    | 205.76       |
| 82-83                                                                      | 10 628 | 1 677 | 157.75       | 4.61      | 9 789  | 5.84      | 48 967    | 216.92       |
| 83-84                                                                      | 8 951  | 1 496 | 167.18       | 4.38      | 8 203  | 5.48      | 39 178    | 228.31       |
| 84-85                                                                      | 7 455  | 1 325 | 177.63       | 4.16      | 6 793  | 5.13      | 30 975    | 240.38       |
| 85-86                                                                      | 6 130  | 1 156 | 188.64       | 3.95      | 5 552  | 4.80      | 24 182    | 253.16       |
| 86-87                                                                      | 4 974  | 995   | 200.06       | 3.75      | 4 476  | 4.50      | 18 630    | 266.67       |
| 87-88                                                                      | 3 979  | 844   | 212.00       | 3.56      | 3 557  | 4.22      | 14 154    | 280.90       |
| 88-89                                                                      | 3 135  | 704   | 224.72       | 3.38      | 2 783  | 3.95      | 10 597    | 295.86       |
| 89-90                                                                      | 2 431  | 580   | 238.34       | 3.22      | 2 141  | 3.70      | 7 814     | 310.56       |
| 90-91                                                                      | 1 851  | 467   | 252.74       | 3.07      | 1 617  | 3.46      | 5 673     | 325.73       |
| 91-92                                                                      | 1 384  | 370   | 267.30       | 2.93      | 1 199  | 3.24      | 4 056     | 341.30       |
| 92-93                                                                      | 1 014  | 285   | 281.08       | 2.82      | 871    | 3.06      | 2 857     | 354.61       |
| 93-94                                                                      | 729    | 214   | 293.04       | 2.73      | 622    | 2.91      | 1 986     | 366.30       |
| 94-95                                                                      | 515    | 156   | 302.46       | 2.65      | 437    | 2.81      | 1 364     | 377.36       |
| 95-96                                                                      | 359    | 111   | 309.20       | 2.58      | 304    | 2.73      | 927       | 387.60       |
| 96-97                                                                      | 248    | 78    | 314.04       | 2.51      | 209    | 2.68      | 623       | 398.41       |
| 97-98                                                                      | 170    | 54    | 318.51       | 2.44      | 143    | 2.64      | 414       | 409.84       |
| 98-99                                                                      | 116    | 38    | 324.66       | 2.34      | 97     | 2.58      | 271       | 427.35       |
| 99-100                                                                     | 78     | 26    | 334.41       | 2.23      | 65     | 2.49      | 174       | 448.43       |
| 100-101                                                                    | 52     | 18    | 349.18       | 2.10      | 43     | 2.36      | 109       | 476.19       |
| 101-102                                                                    | 34     | 13    | 369.60       | 1.95      | 28     | 2.21      | 66        | 512.82       |
| 102-103                                                                    | 21     | 8     | 395.51       | 1.81      | 17     | 2.03      | 38        | 552.49       |
| 103-104                                                                    | 13     | 6     | 425.99       | 1.66      | 10     | 1.85      | 21        | 602.41       |
| 104-105                                                                    | 7      | 3     | 459.78       | 1.52      | 6      | 1.67      | 11        | 637.89       |
| 105-106                                                                    | 4      | 2     | 495.79       | 1.40      | 3      | 1.52      | 5         | 714.29       |
| 106-107                                                                    | 2      | 1     | 534.15       | 1.28      | 1      | 1.37      | 2         | 781.25       |
| 107-108                                                                    | 1      | 1     | 572.39       | 1.17      | 1      | 1.25      | 1         | 854.70       |

## UNITED STATES LIFE TABLES.

TABLE 27

## LIFE TABLE FOR WHITE MALES IN CITIES OF

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (5,314,456), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Illinois in 1910 for the years 1910 and 1911. An explanation of each column of the life tables is given on

| AGE INTERVAL.                              | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                   | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                       | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            |         |       | Monthly rate. | In years. |       | Per month. |           | Annual rate. |
| 0-1                                                                | 100 000 | 4 834 | 48.34         | 43.97     | 8 031 | 19.92      | 4 396 807 | 22.74        |
| 1-2                                                                | 95 166  | 1 310 | 11.08         | 46.12     | 7 875 | 70.56      | 4 388 776 | 21.68        |
| 2-3                                                                | 93 826  | 1 247 | 13.29         | 46.90     | 7 767 | 74.76      | 4 380 901 | 21.42        |
| 3-4                                                                | 92 579  | 1 164 | 12.58         | 47.24     | 7 666 | 79.08      | 4 373 134 | 21.17        |
| 4-5                                                                | 91 415  | 1 084 | 11.85         | 47.75     | 7 573 | 83.88      | 4 365 468 | 20.94        |
| 5-6                                                                | 90 331  | 1 004 | 11.11         | 48.24     | 7 486 | 89.52      | 4 357 895 | 20.73        |
| 6-7                                                                | 89 327  | 923   | 10.33         | 48.70     | 7 405 | 96.24      | 4 350 409 | 20.53        |
| 7-8                                                                | 88 404  | 843   | 9.55          | 49.13     | 7 332 | 104.40     | 4 343 004 | 20.35        |
| 8-9                                                                | 87 561  | 766   | 8.74          | 49.52     | 7 265 | 113.76     | 4 335 672 | 20.19        |
| 9-10                                                               | 86 795  | 693   | 7.98          | 49.87     | 7 204 | 124.80     | 4 328 407 | 20.05        |
| 10-11                                                              | 86 102  | 626   | 7.28          | 50.19     | 7 149 | 137.04     | 4 321 203 | 19.92        |
| 11-12                                                              | 85 476  | 573   | 6.71          | 50.47     | 7 099 | 148.68     | 4 314 054 | 19.81        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 15 097 | 150.97       | 43.97     | 89 852 | 5.95      | 4 396 807 | 22.74        |
| 1-2                                                              | 84 903  | 3 586  | 42.23        | 50.73     | 82 787 | 23.09     | 4 306 955 | 19.71        |
| 2-3                                                              | 81 317  | 1 626  | 19.99        | 51.95     | 80 456 | 49.48     | 4 224 168 | 19.25        |
| 3-4                                                              | 79 691  | 1 039  | 13.04        | 52.00     | 79 151 | 76.18     | 4 143 712 | 19.23        |
| 4-5                                                              | 78 652  | 760    | 9.92         | 51.68     | 78 247 | 100.32    | 4 064 561 | 19.35        |
| 5-6                                                              | 77 872  | 579    | 7.44         | 51.19     | 77 582 | 133.99    | 3 986 314 | 19.54        |
| 6-7                                                              | 77 293  | 473    | 6.11         | 50.57     | 77 056 | 162.91    | 3 908 732 | 19.77        |
| 7-8                                                              | 76 820  | 383    | 4.99         | 49.82     | 76 629 | 200.08    | 3 831 676 | 20.05        |
| 8-9                                                              | 76 437  | 313    | 4.10         | 49.13     | 76 281 | 243.71    | 3 755 047 | 20.35        |
| 9-10                                                             | 76 124  | 261    | 3.42         | 48.33     | 75 994 | 291.16    | 3 678 766 | 20.69        |
| 10-11                                                            | 75 863  | 225    | 2.97         | 47.49     | 75 751 | 336.67    | 3 602 772 | 21.06        |
| 11-12                                                            | 75 638  | 208    | 2.74         | 46.63     | 75 534 | 363.14    | 3 527 021 | 21.45        |
| 12-13                                                            | 75 430  | 204    | 2.71         | 45.76     | 75 328 | 369.25    | 3 451 487 | 21.85        |
| 13-14                                                            | 75 226  | 216    | 2.87         | 44.88     | 75 118 | 347.77    | 3 376 159 | 22.28        |
| 14-15                                                            | 75 010  | 240    | 3.19         | 44.01     | 74 890 | 312.04    | 3 301 011 | 22.72        |
| 15-16                                                            | 74 770  | 273    | 3.66         | 43.15     | 74 633 | 273.38    | 3 226 151 | 23.17        |
| 16-17                                                            | 74 497  | 318    | 4.26         | 42.30     | 74 398 | 233.77    | 3 151 518 | 23.64        |
| 17-18                                                            | 74 179  | 361    | 4.87         | 41.48     | 73 998 | 204.98    | 3 077 180 | 24.11        |
| 18-19                                                            | 73 818  | 398    | 5.39         | 40.68     | 73 619 | 184.97    | 3 003 182 | 24.58        |
| 19-20                                                            | 73 420  | 427    | 5.83         | 39.90     | 73 207 | 171.44    | 2 929 563 | 25.06        |
| 20-21                                                            | 72 993  | 460    | 6.29         | 39.13     | 72 763 | 158.18    | 2 856 356 | 25.56        |
| 21-22                                                            | 72 533  | 491    | 6.77         | 38.38     | 72 288 | 147.23    | 2 783 593 | 26.06        |
| 22-23                                                            | 72 042  | 516    | 7.17         | 37.64     | 71 784 | 139.12    | 2 711 305 | 26.57        |
| 23-24                                                            | 71 526  | 535    | 7.48         | 36.90     | 71 258 | 133.19    | 2 639 521 | 27.10        |
| 24-25                                                            | 70 991  | 549    | 7.74         | 36.18     | 70 716 | 128.81    | 2 568 263 | 27.64        |
| 25-26                                                            | 70 442  | 563    | 7.99         | 35.46     | 70 160 | 124.62    | 2 497 547 | 28.20        |
| 26-27                                                            | 69 879  | 575    | 8.23         | 34.74     | 69 591 | 121.03    | 2 427 387 | 28.79        |
| 27-28                                                            | 69 304  | 588    | 8.49         | 34.02     | 69 010 | 117.36    | 2 357 796 | 29.39        |
| 28-29                                                            | 68 716  | 604    | 8.79         | 33.31     | 68 414 | 113.27    | 2 288 786 | 30.02        |
| 29-30                                                            | 68 112  | 621    | 9.12         | 32.60     | 67 801 | 109.18    | 2 220 372 | 30.67        |
| 30-31                                                            | 67 491  | 639    | 9.47         | 31.89     | 67 171 | 105.12    | 2 152 571 | 31.36        |
| 31-32                                                            | 66 852  | 657    | 9.83         | 31.19     | 66 523 | 101.25    | 2 085 400 | 32.06        |
| 32-33                                                            | 66 195  | 675    | 10.19        | 30.50     | 65 858 | 97.57     | 2 018 877 | 32.79        |
| 33-34                                                            | 65 520  | 691    | 10.55        | 29.81     | 65 175 | 94.32     | 1 953 019 | 33.55        |
| 34-35                                                            | 64 829  | 706    | 10.89        | 29.12     | 64 476 | 91.33     | 1 887 844 | 34.34        |
| 35-36                                                            | 64 123  | 721    | 11.25        | 28.44     | 63 763 | 88.44     | 1 823 368 | 35.16        |
| 36-37                                                            | 63 402  | 736    | 11.61        | 27.75     | 63 034 | 85.64     | 1 759 605 | 36.04        |
| 37-38                                                            | 62 666  | 752    | 12.01        | 27.07     | 62 290 | 82.83     | 1 696 571 | 36.94        |
| 38-39                                                            | 61 914  | 772    | 12.47        | 26.40     | 61 528 | 79.70     | 1 634 281 | 37.88        |
| 39-40                                                            | 61 142  | 795    | 12.99        | 25.72     | 60 744 | 76.41     | 1 572 753 | 38.88        |
| 40-41                                                            | 60 347  | 817    | 13.54        | 25.06     | 59 939 | 73.36     | 1 512 009 | 39.90        |
| 41-42                                                            | 59 530  | 843    | 14.17        | 24.39     | 59 108 | 70.12     | 1 452 070 | 41.00        |
| 42-43                                                            | 58 687  | 866    | 14.75        | 23.74     | 58 251 | 67.27     | 1 392 962 | 42.12        |
| 43-44                                                            | 57 821  | 880    | 15.22        | 23.08     | 57 381 | 65.21     | 1 334 708 | 43.33        |
| 44-45                                                            | 56 941  | 890    | 15.64        | 22.43     | 56 496 | 63.48     | 1 277 327 | 44.58        |



## THE ORIGINAL REGISTRATION STATES: 1901.

## TABLE 27

REPORTED DEATHS IN 1900 (101,480), IN 1901 (100,967), AND IN 1902 (99,631).

Michigan, and the District of Columbia. The term "cities" means municipalities of 8,000 or more inhabitants in 1900 for the year 1900, and of 10,000 or more inhabitants in 1901 and 1902. Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE<br>INTERVAL. | Of 100,000 MALES BORN<br>ALIVE:                     |                                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND. | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                           | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                                                |                                                            |                                                                               |
|------------------|-----------------------------------------------------|--------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------|
|                  |                                                     |                                                  |                                          |                                                                                               | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                                        | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS. | DEATH RATE<br>PER THOUSAND.                                                   |
|                  | Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval.         | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval.                                                                                                               | Including only<br>those in current<br>month or year<br>of age. | Population<br>per death in<br>age interval.                | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                               | $d_x$                                            | $1000q_x$                                | $e_x$                                                                                         | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                                      | $T_x$                                                      | $1000l_x/T_x$                                                                 |
| 1                | 2                                                   | 3                                                | 4                                        | 5                                                                                             | 6                                                                                                                                                                                                          | 7                                                              | 8                                                          | 9                                                                             |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 56 051 | 903   | 16.12        | 21.78     | 55 599 | 61.57     | 1 220 831 | 45.91        |
| 46-47                                                                      | 55 148 | 918   | 16.64        | 21.13     | 54 689 | 59.57     | 1 165 232 | 47.33        |
| 47-48                                                                      | 54 230 | 940   | 17.32        | 20.48     | 53 760 | 57.19     | 1 110 543 | 48.83        |
| 48-49                                                                      | 53 290 | 970   | 18.22        | 19.83     | 52 805 | 54.44     | 1 056 783 | 50.43        |
| 49-50                                                                      | 52 320 | 1 008 | 19.25        | 19.19     | 51 816 | 51.40     | 1 003 978 | 52.11        |
| 50-51                                                                      | 51 312 | 1 042 | 20.31        | 18.56     | 50 791 | 48.74     | 952 162   | 53.88        |
| 51-52                                                                      | 50 270 | 1 075 | 21.39        | 17.93     | 49 733 | 46.26     | 901 371   | 55.77        |
| 52-53                                                                      | 49 195 | 1 111 | 22.59        | 17.31     | 48 640 | 43.78     | 851 638   | 57.77        |
| 53-54                                                                      | 48 084 | 1 155 | 24.02        | 16.70     | 47 507 | 41.13     | 802 998   | 59.88        |
| 54-55                                                                      | 46 929 | 1 208 | 25.74        | 16.10     | 46 325 | 38.35     | 755 491   | 62.11        |
| 55-56                                                                      | 45 721 | 1 265 | 27.68        | 15.51     | 45 089 | 35.64     | 709 166   | 64.47        |
| 56-57                                                                      | 44 456 | 1 331 | 29.93        | 14.94     | 43 791 | 32.90     | 664 077   | 66.93        |
| 57-58                                                                      | 43 125 | 1 392 | 32.28        | 14.38     | 42 429 | 30.48     | 620 286   | 69.54        |
| 58-59                                                                      | 41 733 | 1 434 | 34.37        | 13.85     | 41 016 | 28.60     | 577 857   | 72.20        |
| 59-60                                                                      | 40 299 | 1 459 | 36.21        | 13.32     | 39 569 | 27.12     | 536 841   | 75.08        |
| 60-61                                                                      | 38 840 | 1 482 | 38.15        | 12.80     | 38 099 | 25.71     | 497 272   | 78.13        |
| 61-62                                                                      | 37 358 | 1 497 | 40.08        | 12.29     | 36 609 | 24.45     | 459 173   | 81.37        |
| 62-63                                                                      | 35 861 | 1 516 | 42.28        | 11.78     | 35 103 | 23.16     | 422 564   | 84.89        |
| 63-64                                                                      | 34 345 | 1 550 | 45.11        | 11.28     | 33 570 | 21.66     | 387 461   | 88.65        |
| 64-65                                                                      | 32 795 | 1 594 | 48.63        | 10.79     | 31 998 | 20.07     | 353 891   | 92.68        |
| 65-66                                                                      | 31 201 | 1 637 | 52.45        | 10.32     | 30 382 | 18.56     | 321 893   | 96.90        |
| 66-67                                                                      | 29 561 | 1 679 | 56.80        | 9.86      | 28 725 | 17.11     | 291 511   | 101.42       |
| 67-68                                                                      | 27 885 | 1 709 | 61.30        | 9.42      | 27 030 | 15.82     | 262 786   | 106.16       |
| 68-69                                                                      | 26 176 | 1 712 | 65.39        | 9.01      | 25 320 | 14.79     | 235 756   | 110.99       |
| 69-70                                                                      | 24 464 | 1 690 | 69.09        | 8.60      | 23 619 | 13.98     | 210 436   | 116.28       |
| 70-71                                                                      | 22 774 | 1 664 | 73.08        | 8.20      | 21 942 | 13.19     | 186 817   | 121.95       |
| 71-72                                                                      | 21 110 | 1 629 | 77.17        | 7.81      | 20 295 | 12.46     | 164 875   | 128.04       |
| 72-73                                                                      | 19 481 | 1 593 | 81.77        | 7.42      | 18 684 | 11.73     | 144 580   | 134.77       |
| 73-74                                                                      | 17 888 | 1 565 | 87.48        | 7.04      | 17 105 | 10.93     | 125 896   | 142.05       |
| 74-75                                                                      | 16 323 | 1 541 | 94.37        | 6.66      | 15 553 | 10.09     | 108 791   | 150.15       |
| 75-76                                                                      | 14 782 | 1 506 | 101.90       | 6.31      | 14 029 | 9.32      | 93 238    | 158.48       |
| 76-77                                                                      | 13 276 | 1 467 | 110.48       | 5.97      | 12 543 | 8.55      | 79 209    | 167.50       |
| 77-78                                                                      | 11 809 | 1 411 | 119.53       | 5.65      | 11 104 | 7.87      | 66 666    | 176.99       |
| 78-79                                                                      | 10 398 | 1 334 | 128.26       | 5.34      | 9 731  | 7.29      | 55 562    | 187.27       |
| 79-80                                                                      | 9 064  | 1 239 | 136.74       | 5.06      | 8 445  | 6.82      | 45 831    | 197.63       |
| 80-81                                                                      | 7 825  | 1 146 | 146.45       | 4.78      | 7 252  | 6.33      | 37 386    | 209.21       |
| 81-82                                                                      | 6 679  | 1 053 | 157.63       | 4.51      | 6 152  | 5.84      | 30 134    | 221.73       |
| 82-83                                                                      | 5 626  | 953   | 169.38       | 4.26      | 5 150  | 5.40      | 23 982    | 234.74       |
| 83-84                                                                      | 4 673  | 846   | 181.00       | 4.03      | 4 250  | 5.02      | 18 832    | 248.14       |
| 84-85                                                                      | 3 827  | 736   | 192.41       | 3.81      | 3 469  | 4.70      | 14 582    | 262.47       |
| 85-86                                                                      | 3 091  | 632   | 204.53       | 3.60      | 2 775  | 4.39      | 11 123    | 277.78       |
| 86-87                                                                      | 2 459  | 536   | 217.99       | 3.39      | 2 191  | 4.09      | 8 348     | 294.99       |
| 87-88                                                                      | 1 923  | 446   | 232.05       | 3.20      | 1 700  | 3.81      | 6 157     | 312.50       |
| 88-89                                                                      | 1 477  | 365   | 246.90       | 3.02      | 1 294  | 3.55      | 4 457     | 331.13       |
| 89-90                                                                      | 1 112  | 292   | 262.57       | 2.84      | 966    | 3.31      | 3 163     | 352.11       |
| 90-91                                                                      | 820    | 229   | 279.06       | 2.68      | 706    | 3.08      | 2 197     | 373.13       |
| 91-92                                                                      | 591    | 175   | 296.38       | 2.52      | 504    | 2.87      | 1 491     | 396.83       |
| 92-93                                                                      | 416    | 131   | 314.55       | 2.37      | 351    | 2.68      | 987       | 421.94       |
| 93-94                                                                      | 285    | 95    | 333.61       | 2.23      | 238    | 2.50      | 636       | 448.43       |
| 94-95                                                                      | 190    | 67    | 353.60       | 2.10      | 156    | 2.33      | 398       | 476.19       |
| 95-96                                                                      | 123    | 46    | 374.58       | 1.97      | 100    | 2.17      | 243       | 507.61       |
| 96-97                                                                      | 77     | 31    | 396.61       | 1.85      | 62     | 2.02      | 142       | 540.54       |
| 97-98                                                                      | 46     | 19    | 419.70       | 1.73      | 37     | 1.88      | 80        | 578.03       |
| 98-99                                                                      | 27     | 12    | 443.95       | 1.62      | 21     | 1.75      | 43        | 617.28       |
| 99-100                                                                     | 15     | 7     | 469.35       | 1.52      | 11     | 1.63      | 22        | 657.89       |
| 100-101                                                                    | 8      | 4     | 495.90       | 1.42      | 6      | 1.52      | 11        | 704.23       |
| 101-102                                                                    | 4      | 2     | 523.63       | 1.33      | 3      | 1.41      | 5         | 751.88       |
| 102-103                                                                    | 2      | 1     | 552.55       | 1.24      | 1      | 1.31      | 2         | 806.45       |
| 103-104                                                                    | 1      | 1     | 582.65       | 1.16      | 1      | 1.22      | 1         | 862.07       |

## UNITED STATES LIFE TABLES.

TABLE 28

## LIFE TABLE FOR WHITE MALES IN CITIES OF

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (7,211,022), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Illinois, and Ohio for the years 1910 and 1911. An explanation of each column of the life tables is given on

| AGE<br>INTERVAL.                                    | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            |         |       | Monthly rate. | In years. |       | Per month. |           | Annual rate. |
| 0-1                                                                | 100 000 | 4 969 | 49.69         | 47.32     | 8 023 |            |           |              |
| 1-2                                                                | 95 031  | 1 370 | 14.42         | 49.71     | 7 862 | 19.32      | 4 732 068 | 21.13        |
| 2-3                                                                | 93 661  | 1 091 | 11.65         | 50.35     | 7 760 | 68.88      | 4 724 045 | 20.12        |
| 3-4                                                                | 92 570  | 941   | 10.17         | 50.86     | 7 673 | 85.32      | 4 716 183 | 19.86        |
| 4-5                                                                | 91 629  | 835   | 9.11          | 51.30     | 7 601 | 97.92      | 4 708 423 | 19.66        |
| 5-6                                                                | 90 794  | 755   | 8.32          | 51.69     | 7 535 | 109.20     | 4 700 748 | 19.49        |
|                                                                    |         |       |               |           |       | 119.76     | 4 693 117 | 19.35        |
| 6-7                                                                | 90 039  | 694   | 7.71          | 52.01     | 7 474 | 129.24     | 4 685 612 | 19.22        |
| 7-8                                                                | 89 315  | 610   | 7.15          | 52.36     | 7 419 | 139.08     | 4 678 138 | 19.10        |
| 8-9                                                                | 88 705  | 586   | 6.62          | 52.65     | 7 368 | 150.84     | 4 670 719 | 18.99        |
| 9-10                                                               | 88 119  | 537   | 6.09          | 52.92     | 7 321 | 163.56     | 4 663 351 | 18.90        |
| 10-11                                                              | 87 582  | 496   | 5.66          | 53.16     | 7 278 | 176.04     | 4 656 030 | 18.81        |
| 11-12                                                              | 87 086  | 466   | 5.36          | 53.38     | 7 238 | 186.36     | 4 648 752 | 18.73        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 13 380 | 133.80       | 47.32     | 90 554 |           |           |              |
| 1-2                                                              | 86 620  | 2 867  | 33.09        | 53.58     | 81 929 | 6.77      | 4 732 068 | 21.13        |
| 2-3                                                              | 83 753  | 1 253  | 14.96        | 54.41     | 83 089 | 29.62     | 4 611 514 | 18.66        |
| 3-4                                                              | 82 500  | 763    | 9.25         | 54.22     | 82 103 | 66.31     | 4 556 585 | 18.38        |
| 4-5                                                              | 81 737  | 552    | 6.75         | 53.73     | 81 450 | 107.61    | 4 473 496 | 18.44        |
|                                                                  |         |        |              |           |        | 147.55    | 4 391 393 | 18.61        |
| 5-6                                                              | 81 185  | 447    | 5.51         | 53.09     | 80 961 | 181.12    | 4 309 943 | 18.84        |
| 6-7                                                              | 80 738  | 375    | 4.64         | 52.38     | 80 550 | 214.80    | 4 228 982 | 19.09        |
| 7-8                                                              | 80 363  | 314    | 3.91         | 51.62     | 80 206 | 255.43    | 4 148 432 | 19.37        |
| 8-9                                                              | 80 019  | 266    | 3.32         | 50.82     | 79 916 | 300.44    | 4 068 226 | 19.68        |
| 9-10                                                             | 79 783  | 230    | 2.88         | 49.99     | 79 668 | 346.38    | 3 988 310 | 20.00        |
| 10-11                                                            | 79 553  | 205    | 2.59         | 49.13     | 79 450 | 387.56    | 3 908 642 | 20.35        |
| 11-12                                                            | 79 318  | 193    | 2.43         | 48.26     | 79 251 | 410.63    | 3 829 192 | 20.72        |
| 12-13                                                            | 79 155  | 190    | 2.40         | 47.37     | 79 060 | 416.11    | 3 749 941 | 21.11        |
| 13-14                                                            | 78 965  | 197    | 2.49         | 46.49     | 78 866 | 400.34    | 3 670 881 | 21.51        |
| 14-15                                                            | 78 768  | 211    | 2.68         | 45.60     | 78 663 | 372.81    | 3 592 015 | 21.93        |
| 15-16                                                            | 78 557  | 230    | 2.93         | 44.72     | 78 442 | 341.05    | 3 513 352 | 22.36        |
| 16-17                                                            | 78 327  | 255    | 3.26         | 43.85     | 78 199 | 306.66    | 3 434 910 | 22.81        |
| 17-18                                                            | 78 072  | 286    | 3.66         | 43.00     | 77 929 | 272.48    | 3 356 711 | 23.26        |
| 18-19                                                            | 77 786  | 317    | 4.07         | 42.15     | 77 628 | 244.88    | 3 278 782 | 23.72        |
| 19-20                                                            | 77 469  | 347    | 4.49         | 41.32     | 77 296 | 222.76    | 3 201 154 | 24.20        |
| 20-21                                                            | 77 122  | 381    | 4.93         | 40.51     | 76 932 | 201.92    | 3 123 858 | 24.69        |
| 21-22                                                            | 76 741  | 403    | 5.26         | 39.70     | 76 540 | 189.93    | 3 046 926 | 25.19        |
| 22-23                                                            | 76 338  | 415    | 5.43         | 38.91     | 76 131 | 183.45    | 2 970 386 | 25.70        |
| 23-24                                                            | 75 923  | 418    | 5.52         | 38.12     | 75 714 | 181.13    | 2 894 255 | 26.23        |
| 24-25                                                            | 75 505  | 425    | 5.62         | 37.33     | 75 292 | 177.16    | 2 818 541 | 26.79        |
| 25-26                                                            | 75 080  | 430    | 5.73         | 36.54     | 74 865 | 174.10    | 2 743 249 | 27.37        |
| 26-27                                                            | 74 650  | 440    | 5.89         | 35.75     | 74 430 | 169.16    | 2 668 381 | 27.97        |
| 27-28                                                            | 74 210  | 456    | 6.14         | 34.95     | 73 982 | 162.24    | 2 593 951 | 28.61        |
| 28-29                                                            | 73 751  | 477    | 6.48         | 34.17     | 73 516 | 154.12    | 2 519 972 | 29.27        |
| 29-30                                                            | 73 277  | 501    | 6.83         | 33.39     | 73 026 | 145.76    | 2 446 456 | 29.95        |
| 30-31                                                            | 72 776  | 525    | 7.22         | 32.61     | 72 513 | 138.12    | 2 373 430 | 30.67        |
| 31-32                                                            | 72 251  | 555    | 7.68         | 31.85     | 71 973 | 129.68    | 2 300 917 | 31.40        |
| 32-33                                                            | 71 696  | 586    | 8.17         | 31.09     | 71 403 | 121.85    | 2 228 944 | 32.16        |
| 33-34                                                            | 71 110  | 617    | 8.68         | 30.34     | 70 801 | 114.75    | 2 157 541 | 32.96        |
| 34-35                                                            | 70 493  | 649    | 9.20         | 29.60     | 70 169 | 108.12    | 2 086 740 | 33.78        |
| 35-36                                                            | 69 844  | 679    | 9.73         | 28.87     | 69 505 | 102.36    | 2 016 571 | 34.64        |
| 36-37                                                            | 69 165  | 708    | 10.24        | 28.15     | 68 811 | 97.19     | 1 947 066 | 35.52        |
| 37-38                                                            | 68 457  | 732    | 10.69        | 27.44     | 68 091 | 93.02     | 1 878 255 | 36.44        |
| 38-39                                                            | 67 725  | 755    | 11.14        | 26.73     | 67 318 | 89.20     | 1 810 164 | 37.41        |
| 39-40                                                            | 66 970  | 777    | 11.61        | 26.02     | 66 582 | 85.69     | 1 742 816 | 38.43        |
| 40-41                                                            | 66 193  | 801    | 12.10        | 25.32     | 65 793 | 82.14     | 1 676 234 | 39.49        |
| 41-42                                                            | 65 392  | 825    | 12.62        | 24.63     | 64 979 | 78.76     | 1 610 441 | 40.60        |
| 42-43                                                            | 64 567  | 852    | 13.10        | 23.91     | 64 141 | 75.28     | 1 545 462 | 41.77        |
| 43-44                                                            | 63 715  | 879    | 13.80        | 23.25     | 63 276 | 71.99     | 1 481 321 | 43.01        |
| 44-45                                                            | 62 836  | 908    | 14.46        | 22.57     | 62 382 | 68.70     | 1 418 045 | 44.31        |

## TABLE 28

Michigan, and the District of Columbia. The term "cities" means municipalities of 8,000 or more inhabitants in 1900 for the year 1909, and of 10,000 or more inhabitants 25 to 29, and illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE<br>INTERVAL.                                    | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 61 928 | 941   | 15.18        | 21.89     | 61 457 | 65.31     | 1 353 663 | 45.68        |
| 46-47                                                                      | 60 987 | 973   | 15.96        | 21.22     | 60 501 | 62.18     | 1 294 206 | 47.13        |
| 47-48                                                                      | 60 014 | 1 004 | 16.74        | 20.56     | 59 512 | 59.27     | 1 233 705 | 48.64        |
| 48-49                                                                      | 59 010 | 1 031 | 17.52        | 19.90     | 58 493 | 56.57     | 1 174 193 | 50.25        |
| 49-50                                                                      | 57 976 | 1 063 | 18.34        | 19.24     | 57 444 | 54.04     | 1 115 700 | 51.98        |
| 50-51                                                                      | 56 913 | 1 091 | 19.17        | 18.59     | 56 368 | 51.67     | 1 058 256 | 53.79        |
| 51-52                                                                      | 55 822 | 1 124 | 20.13        | 17.95     | 55 260 | 49.16     | 1 001 888 | 55.71        |
| 52-53                                                                      | 54 698 | 1 169 | 21.38        | 17.31     | 54 114 | 46.29     | 946 628   | 57.77        |
| 53-54                                                                      | 53 529 | 1 229 | 22.96        | 16.67     | 52 915 | 43.06     | 892 514   | 59.99        |
| 54-55                                                                      | 52 300 | 1 296 | 24.77        | 16.05     | 51 652 | 39.85     | 839 599   | 62.31        |
| 55-56                                                                      | 51 001 | 1 373 | 26.93        | 15.45     | 50 317 | 36.65     | 787 947   | 64.72        |
| 56-57                                                                      | 49 631 | 1 455 | 29.31        | 14.86     | 48 903 | 33.61     | 737 630   | 67.29        |
| 57-58                                                                      | 48 176 | 1 532 | 31.60        | 14.30     | 47 415 | 31.15     | 688 727   | 69.93        |
| 58-59                                                                      | 46 654 | 1 574 | 33.74        | 13.75     | 45 867 | 29.14     | 641 312   | 72.73        |
| 59-60                                                                      | 45 080 | 1 626 | 36.07        | 13.21     | 44 267 | 27.22     | 595 445   | 75.70        |
| 60-61                                                                      | 43 454 | 1 373 | 38.51        | 12.68     | 42 617 | 25.47     | 551 178   | 78.86        |
| 61-62                                                                      | 41 781 | 1 717 | 41.10        | 12.17     | 40 922 | 23.83     | 508 561   | 82.17        |
| 62-63                                                                      | 40 061 | 1 762 | 43.96        | 11.67     | 39 183 | 22.24     | 467 639   | 85.69        |
| 63-64                                                                      | 38 302 | 1 804 | 47.11        | 11.19     | 37 400 | 20.73     | 428 456   | 89.37        |
| 64-65                                                                      | 36 498 | 1 837 | 50.34        | 10.71     | 35 579 | 19.37     | 391 056   | 93.37        |
| 65-66                                                                      | 34 661 | 1 860 | 53.66        | 10.26     | 33 731 | 18.13     | 355 477   | 97.47        |
| 66-67                                                                      | 32 801 | 1 875 | 57.15        | 9.81      | 31 864 | 16.99     | 321 746   | 101.94       |
| 67-68                                                                      | 30 926 | 1 881 | 60.91        | 9.37      | 29 984 | 15.92     | 289 882   | 106.72       |
| 68-69                                                                      | 29 042 | 1 888 | 65.01        | 8.95      | 28 098 | 14.88     | 259 898   | 111.73       |
| 69-70                                                                      | 27 151 | 1 885 | 69.42        | 8.54      | 26 212 | 13.91     | 231 800   | 117.10       |
| 70-71                                                                      | 25 269 | 1 875 | 74.20        | 8.14      | 24 332 | 12.98     | 205 588   | 122.85       |
| 71-72                                                                      | 23 391 | 1 857 | 79.41        | 7.75      | 22 465 | 12.10     | 181 256   | 129.03       |
| 72-73                                                                      | 21 537 | 1 832 | 85.03        | 7.37      | 20 621 | 11.26     | 158 791   | 135.69       |
| 73-74                                                                      | 19 705 | 1 795 | 91.10        | 7.01      | 18 808 | 10.48     | 138 170   | 142.65       |
| 74-75                                                                      | 17 910 | 1 752 | 97.83        | 6.66      | 17 034 | 9.72      | 119 362   | 150.15       |
| 75-76                                                                      | 16 158 | 1 704 | 105.46       | 6.33      | 15 306 | 8.98      | 102 328   | 157.98       |
| 76-77                                                                      | 14 451 | 1 638 | 113.33       | 6.02      | 13 635 | 8.32      | 87 022    | 166.11       |
| 77-78                                                                      | 12 816 | 1 550 | 120.93       | 5.73      | 12 011 | 7.77      | 73 387    | 174.52       |
| 78-79                                                                      | 11 266 | 1 446 | 128.38       | 5.45      | 10 543 | 7.29      | 61 316    | 183.49       |
| 79-80                                                                      | 9 820  | 1 342 | 136.67       | 5.17      | 9 149  | 6.82      | 50 803    | 193.42       |
| 80-81                                                                      | 8 478  | 1 237 | 145.88       | 4.91      | 7 859  | 6.36      | 41 654    | 203.67       |
| 81-82                                                                      | 7 241  | 1 128 | 155.81       | 4.67      | 6 677  | 5.92      | 33 795    | 214.13       |
| 82-83                                                                      | 6 113  | 1 016 | 166.14       | 4.44      | 5 605  | 5.52      | 27 118    | 225.23       |
| 83-84                                                                      | 5 097  | 900   | 176.56       | 4.22      | 4 617  | 5.16      | 21 513    | 236.97       |
| 84-85                                                                      | 4 197  | 785   | 187.15       | 4.02      | 3 804  | 4.84      | 16 866    | 248.76       |
| 85-86                                                                      | 3 412  | 674   | 197.41       | 3.83      | 3 075  | 4.57      | 13 062    | 261.10       |
| 86-87                                                                      | 2 738  | 571   | 208.55       | 3.65      | 2 453  | 4.30      | 9 987     | 273.97       |
| 87-88                                                                      | 2 167  | 477   | 220.24       | 3.48      | 1 929  | 4.04      | 7 534     | 287.36       |
| 88-89                                                                      | 1 690  | 393   | 232.33       | 3.32      | 1 494  | 3.80      | 5 605     | 301.20       |
| 89-90                                                                      | 1 297  | 317   | 244.59       | 3.17      | 1 139  | 3.59      | 4 111     | 315.46       |
| 90-91                                                                      | 980    | 252   | 256.62       | 3.03      | 854    | 3.40      | 2 972     | 330.03       |
| 91-92                                                                      | 728    | 195   | 267.99       | 2.91      | 631    | 3.23      | 2 118     | 343.64       |
| 92-93                                                                      | 533    | 148   | 278.57       | 2.79      | 459    | 3.09      | 1 487     | 358.42       |
| 93-94                                                                      | 385    | 111   | 288.57       | 2.67      | 329    | 2.97      | 1 028     | 374.53       |
| 94-95                                                                      | 274    | 82    | 298.67       | 2.56      | 233    | 2.85      | 699       | 390.63       |
| 95-96                                                                      | 192    | 60    | 309.87       | 2.43      | 163    | 2.73      | 466       | 411.52       |
| 96-97                                                                      | 132    | 42    | 323.37       | 2.30      | 111    | 2.59      | 304       | 434.78       |
| 97-98                                                                      | 90     | 31    | 340.17       | 2.16      | 74     | 2.44      | 193       | 462.96       |
| 98-99                                                                      | 59     | 21    | 360.88       | 2.01      | 46     | 2.27      | 119       | 497.51       |
| 99-100                                                                     | 38     | 15    | 385.57       | 1.87      | 31     | 2.09      | 71        | 534.76       |
| 100-101                                                                    | 23     | 9     | 413.88       | 1.72      | 18     | 1.92      | 40        | 584.40       |
| 101-102                                                                    | 14     | 6     | 445.10       | 1.59      | 11     | 1.75      | 22        | 628.93       |
| 102-103                                                                    | 8      | 4     | 478.40       | 1.46      | 6      | 1.59      | 11        | 684.93       |
| 103-104                                                                    | 4      | 2     | 513.10       | 1.35      | 3      | 1.45      | 5         | 740.74       |
| 104-105                                                                    | 2      | 1     | 548.54       | 1.24      | 1      | 1.32      | 2         | 806.45       |
| 105-106                                                                    | 1      | 1     | 584.78       | 1.15      | 1      | 1.21      | 1         | 869.57       |

TABLE 29

## LIFE TABLE FOR WHITE FEMALES IN CITIES

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (5,488,482), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Illinois in 1910 for the years 1910 and 1911. An explanation of each column of the life tables is given

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                      | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                    | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                    | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                        | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            |         |       | Monthly rate. | In years. |       | Per month. |           | Annual rate. |
| 0-1                                                                | 100 000 | 3 702 | 37.02         | 47.90     | 8 102 | 26.28      | 4 750 067 | 20.88        |
| 1-2                                                                | 96 298  | 1 124 | 11.67         | 49.66     | 7 978 | 85.20      | 4 781 965 | 20.14        |
| 2-3                                                                | 95 174  | 1 019 | 11.03         | 50.16     | 7 887 | 90.24      | 4 773 987 | 19.94        |
| 3-4                                                                | 94 125  | 980   | 10.40         | 50.64     | 7 803 | 95.52      | 4 766 100 | 19.75        |
| 4-5                                                                | 93 145  | 912   | 9.80          | 51.08     | 7 724 | 101.64     | 4 758 297 | 19.58        |
| 5-6                                                                | 92 233  | 847   | 9.18          | 51.51     | 7 651 | 108.36     | 4 750 573 | 19.41        |
| 6-7                                                                | 91 386  | 785   | 8.59          | 51.90     | 7 583 | 115.92     | 4 742 922 | 19.27        |
| 7-8                                                                | 90 601  | 725   | 8.01          | 52.27     | 7 520 | 124.44     | 4 735 339 | 19.13        |
| 8-9                                                                | 89 876  | 670   | 7.46          | 52.60     | 7 462 | 133.68     | 4 727 819 | 19.01        |
| 9-10                                                               | 89 206  | 620   | 6.95          | 52.92     | 7 408 | 143.40     | 4 720 357 | 18.90        |
| 10-11                                                              | 88 586  | 579   | 6.54          | 53.20     | 7 358 | 152.52     | 4 712 949 | 18.80        |
| 11-12                                                              | 88 007  | 552   | 6.27          | 53.47     | 7 311 | 158.88     | 4 705 591 | 18.70        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 12 545 | 125.45       | 47.90     | 91 787 | 7.32      | 4 790 067 | 20.88        |
| 1-2                                                              | 87 455  | 3 338  | 38.17        | 53.72     | 85 485 | 25.61     | 4 698 280 | 18.62        |
| 2-3                                                              | 84 117  | 1 528  | 18.17        | 54.81     | 83 307 | 54.52     | 4 612 795 | 18.23        |
| 3-4                                                              | 82 589  | 1 006  | 12.18        | 54.84     | 82 066 | 81.58     | 4 529 488 | 18.23        |
| 4-5                                                              | 81 583  | 778    | 9.53         | 54.51     | 81 178 | 104.34    | 4 447 422 | 18.35        |
| 5-6                                                              | 80 805  | 597    | 7.39         | 54.03     | 80 507 | 134.85    | 4 366 244 | 18.51        |
| 6-7                                                              | 80 208  | 457    | 5.70         | 53.43     | 79 980 | 175.01    | 4 285 737 | 18.72        |
| 7-8                                                              | 79 761  | 351    | 4.41         | 52.74     | 79 575 | 226.71    | 4 205 757 | 18.96        |
| 8-9                                                              | 79 400  | 278    | 3.49         | 51.97     | 79 261 | 285.11    | 4 126 182 | 19.24        |
| 9-10                                                             | 79 122  | 228    | 2.89         | 51.15     | 79 008 | 346.53    | 4 046 921 | 19.55        |
| 10-11                                                            | 78 894  | 202    | 2.55         | 50.29     | 78 793 | 390.06    | 3 967 913 | 19.88        |
| 11-12                                                            | 78 692  | 192    | 2.44         | 49.42     | 78 596 | 409.35    | 3 889 120 | 20.23        |
| 12-13                                                            | 78 500  | 197    | 2.51         | 48.54     | 78 402 | 397.98    | 3 810 524 | 20.60        |
| 13-14                                                            | 78 303  | 211    | 2.70         | 47.66     | 78 197 | 370.60    | 3 732 122 | 20.98        |
| 14-15                                                            | 78 092  | 233    | 2.97         | 46.79     | 77 976 | 334.66    | 3 653 925 | 21.37        |
| 15-16                                                            | 77 859  | 262    | 3.36         | 45.93     | 77 728 | 296.67    | 3 575 949 | 21.77        |
| 16-17                                                            | 77 597  | 298    | 3.85         | 45.08     | 77 448 | 259.89    | 3 498 221 | 22.18        |
| 17-18                                                            | 77 299  | 335    | 4.33         | 44.25     | 77 132 | 230.24    | 3 420 773 | 22.60        |
| 18-19                                                            | 76 964  | 363    | 4.72         | 43.44     | 76 783 | 211.52    | 3 343 641 | 23.02        |
| 19-20                                                            | 76 601  | 388    | 5.06         | 42.65     | 76 407 | 196.93    | 3 266 858 | 23.45        |
| 20-21                                                            | 76 213  | 412    | 5.40         | 41.86     | 76 007 | 184.48    | 3 190 451 | 23.89        |
| 21-22                                                            | 75 801  | 435    | 5.74         | 41.09     | 75 584 | 173.76    | 3 114 444 | 24.34        |
| 22-23                                                            | 75 366  | 456    | 6.06         | 40.32     | 75 138 | 161.78    | 3 038 860 | 24.80        |
| 23-24                                                            | 74 910  | 478    | 6.38         | 39.56     | 74 671 | 156.22    | 2 963 722 | 25.28        |
| 24-25                                                            | 74 432  | 499    | 6.70         | 38.81     | 74 183 | 148.66    | 2 889 051 | 25.77        |
| 25-26                                                            | 73 933  | 519    | 7.03         | 38.07     | 73 674 | 141.95    | 2 814 868 | 26.27        |
| 26-27                                                            | 73 414  | 540    | 7.36         | 37.34     | 73 144 | 135.45    | 2 741 194 | 26.78        |
| 27-28                                                            | 72 874  | 558    | 7.66         | 36.61     | 72 595 | 130.10    | 2 668 050 | 27.31        |
| 28-29                                                            | 72 316  | 571    | 7.89         | 35.89     | 72 030 | 126.15    | 2 595 455 | 27.86        |
| 29-30                                                            | 71 745  | 580    | 8.09         | 35.17     | 71 455 | 123.20    | 2 523 425 | 28.43        |
| 30-31                                                            | 71 163  | 591    | 8.30         | 34.45     | 70 869 | 119.91    | 2 451 970 | 29.03        |
| 31-32                                                            | 70 574  | 601    | 8.53         | 33.74     | 70 273 | 116.93    | 2 381 101 | 29.64        |
| 32-33                                                            | 69 973  | 612    | 8.74         | 33.02     | 69 667 | 113.83    | 2 310 828 | 30.28        |
| 33-34                                                            | 69 361  | 620    | 8.94         | 32.31     | 69 051 | 111.37    | 2 241 161 | 30.95        |
| 34-35                                                            | 68 741  | 626    | 9.11         | 31.60     | 68 428 | 109.31    | 2 172 110 | 31.65        |
| 35-36                                                            | 68 115  | 632    | 9.27         | 30.88     | 67 799 | 107.28    | 2 103 682 | 32.38        |
| 36-37                                                            | 67 483  | 636    | 9.43         | 30.17     | 67 165 | 105.61    | 2 035 883 | 33.15        |
| 37-38                                                            | 66 847  | 643    | 9.63         | 29.45     | 66 526 | 103.46    | 1 968 718 | 33.96        |
| 38-39                                                            | 66 201  | 657    | 9.93         | 28.73     | 65 875 | 100.27    | 1 902 192 | 34.81        |
| 39-40                                                            | 65 547  | 676    | 10.31        | 28.02     | 65 209 | 96.46     | 1 836 317 | 35.69        |
| 40-41                                                            | 64 871  | 695    | 10.72        | 27.30     | 64 523 | 92.84     | 1 771 108 | 36.63        |
| 41-42                                                            | 64 176  | 720    | 11.21        | 26.59     | 63 816 | 88.63     | 1 706 585 | 37.61        |
| 42-43                                                            | 63 456  | 739    | 11.65        | 25.89     | 63 087 | 85.37     | 1 642 769 | 38.62        |
| 43-44                                                            | 62 717  | 750    | 11.96        | 25.19     | 62 342 | 83.12     | 1 579 682 | 39.70        |
| 44-45                                                            | 61 967  | 756    | 12.20        | 24.49     | 61 589 | 81.47     | 1 517 340 | 40.83        |

## OF THE ORIGINAL REGISTRATION STATES: 1901.

## TABLE 29

REPORTED DEATHS IN 1900 (92,443), IN 1901 (90,330), AND IN 1902 (88,025).

Michigan, and the District of Columbia. The term "cities" means municipalities of 8,000 or more inhabitants in 1900 for the year 1900, and of 10,000 or more inhabitants on pages 25 to 29, and illustrative examples, showing how to use the tables, are given on pages 29 to 40.

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 61 211 | 765   | 12.50        | 23.78     | 60 828 | 79.51     | 1 455 751 | 42.05        |
| 46-47                                                                      | 60 446 | 774   | 12.80        | 23.08     | 60 059 | 77.60     | 1 394 923 | 43.33        |
| 47-48                                                                      | 59 672 | 794   | 13.31        | 22.37     | 59 275 | 74.65     | 1 334 864 | 44.70        |
| 48-49                                                                      | 58 878 | 833   | 14.14        | 21.66     | 58 461 | 70.18     | 1 275 589 | 46.17        |
| 49-50                                                                      | 58 045 | 882   | 15.20        | 20.97     | 57 604 | 65.31     | 1 217 128 | 47.69        |
| 50-51                                                                      | 57 163 | 932   | 16.30        | 20.28     | 56 697 | 60.83     | 1 159 524 | 49.31        |
| 51-52                                                                      | 56 231 | 982   | 17.47        | 19.61     | 55 740 | 56.76     | 1 102 827 | 50.99        |
| 52-53                                                                      | 55 249 | 1 029 | 18.63        | 18.95     | 54 734 | 53.19     | 1 047 087 | 52.77        |
| 53-54                                                                      | 54 220 | 1 073 | 19.78        | 18.30     | 53 683 | 50.03     | 992 353   | 54.64        |
| 54-55                                                                      | 53 147 | 1 117 | 21.01        | 17.66     | 52 589 | 47.08     | 938 670   | 56.63        |
| 55-56                                                                      | 52 030 | 1 166 | 22.42        | 17.03     | 51 447 | 44.12     | 886 081   | 58.72        |
| 56-57                                                                      | 50 864 | 1 222 | 24.02        | 16.41     | 50 253 | 41.12     | 834 634   | 60.94        |
| 57-58                                                                      | 49 642 | 1 281 | 25.81        | 15.80     | 49 001 | 38.25     | 784 381   | 63.29        |
| 58-59                                                                      | 48 361 | 1 338 | 27.66        | 15.21     | 47 692 | 35.64     | 735 380   | 65.75        |
| 59-60                                                                      | 47 023 | 1 387 | 29.49        | 14.62     | 46 330 | 33.40     | 687 688   | 68.40        |
| 60-61                                                                      | 45 636 | 1 430 | 31.35        | 14.05     | 44 921 | 31.41     | 641 358   | 71.17        |
| 61-62                                                                      | 44 206 | 1 469 | 33.21        | 13.49     | 43 472 | 29.59     | 596 437   | 74.13        |
| 62-63                                                                      | 42 737 | 1 505 | 35.22        | 12.94     | 41 985 | 27.90     | 553 965   | 77.28        |
| 63-64                                                                      | 41 232 | 1 551 | 37.61        | 12.39     | 40 457 | 26.08     | 510 980   | 80.71        |
| 64-65                                                                      | 39 681 | 1 606 | 40.48        | 11.86     | 38 878 | 24.21     | 470 523   | 84.32        |
| 65-66                                                                      | 38 075 | 1 660 | 43.60        | 11.34     | 37 245 | 22.44     | 431 645   | 88.18        |
| 66-67                                                                      | 36 415 | 1 714 | 47.09        | 10.83     | 35 558 | 20.75     | 394 400   | 92.34        |
| 67-68                                                                      | 34 701 | 1 767 | 50.91        | 10.34     | 33 817 | 19.14     | 358 842   | 96.71        |
| 68-69                                                                      | 32 934 | 1 806 | 54.84        | 9.87      | 32 031 | 17.74     | 325 025   | 101.32       |
| 69-70                                                                      | 31 128 | 1 831 | 58.81        | 9.41      | 30 213 | 16.50     | 292 994   | 106.27       |
| 70-71                                                                      | 29 297 | 1 849 | 63.13        | 8.97      | 28 372 | 15.34     | 262 781   | 111.48       |
| 71-72                                                                      | 27 448 | 1 861 | 67.80        | 8.54      | 26 517 | 14.25     | 234 409   | 117.10       |
| 72-73                                                                      | 25 587 | 1 858 | 72.61        | 8.12      | 24 658 | 13.27     | 207 892   | 123.15       |
| 73-74                                                                      | 23 729 | 1 841 | 77.60        | 7.72      | 22 808 | 12.39     | 183 234   | 129.53       |
| 74-75                                                                      | 21 888 | 1 816 | 82.95        | 7.33      | 20 980 | 11.55     | 160 426   | 136.43       |
| 75-76                                                                      | 20 072 | 1 784 | 88.85        | 6.95      | 19 180 | 10.75     | 139 446   | 143.88       |
| 76-77                                                                      | 18 288 | 1 749 | 95.65        | 6.58      | 17 414 | 9.96      | 120 266   | 151.98       |
| 77-78                                                                      | 16 539 | 1 708 | 103.27       | 6.22      | 15 685 | 9.18      | 102 852   | 160.77       |
| 78-79                                                                      | 14 831 | 1 658 | 111.77       | 5.88      | 14 002 | 8.46      | 87 167    | 170.07       |
| 79-80                                                                      | 13 173 | 1 594 | 121.05       | 5.55      | 12 376 | 7.76      | 73 165    | 180.18       |
| 80-81                                                                      | 11 579 | 1 516 | 130.93       | 5.25      | 10 821 | 7.14      | 60 769    | 190.48       |
| 81-82                                                                      | 10 063 | 1 421 | 141.19       | 4.97      | 9 352  | 6.58      | 49 968    | 201.21       |
| 82-83                                                                      | 8 642  | 1 311 | 151.66       | 4.70      | 7 957  | 6.09      | 40 616    | 212.77       |
| 83-84                                                                      | 7 331  | 1 189 | 162.25       | 4.45      | 6 737  | 5.66      | 32 629    | 224.72       |
| 84-85                                                                      | 6 142  | 1 063 | 172.99       | 4.22      | 5 611  | 5.28      | 25 892    | 236.97       |
| 85-86                                                                      | 5 079  | 934   | 183.99       | 3.99      | 4 612  | 4.94      | 20 281    | 250.63       |
| 86-87                                                                      | 4 145  | 810   | 195.44       | 3.78      | 3 740  | 4.62      | 15 669    | 264.55       |
| 87-88                                                                      | 3 335  | 692   | 207.50       | 3.58      | 2 989  | 4.33      | 11 929    | 279.33       |
| 88-89                                                                      | 2 643  | 582   | 220.27       | 3.38      | 2 352  | 4.04      | 8 910     | 295.86       |
| 89-90                                                                      | 2 061  | 482   | 233.81       | 3.20      | 1 820  | 3.78      | 6 588     | 312.50       |
| 90-91                                                                      | 1 579  | 392   | 248.09       | 3.02      | 1 383  | 3.53      | 4 768     | 331.13       |
| 91-92                                                                      | 1 187  | 312   | 263.09       | 2.85      | 1 031  | 3.30      | 3 383     | 350.88       |
| 92-93                                                                      | 875    | 244   | 278.79       | 2.69      | 763    | 3.09      | 2 354     | 371.75       |
| 93-94                                                                      | 631    | 186   | 295.23       | 2.54      | 538    | 2.89      | 1 601     | 393.70       |
| 94-95                                                                      | 445    | 139   | 312.51       | 2.39      | 375    | 2.70      | 1 063     | 418.41       |
| 95-96                                                                      | 306    | 101   | 330.76       | 2.25      | 255    | 2.52      | 688       | 444.44       |
| 96-97                                                                      | 205    | 72    | 350.12       | 2.12      | 169    | 2.36      | 433       | 471.70       |
| 97-98                                                                      | 133    | 49    | 370.68       | 1.99      | 108    | 2.20      | 264       | 502.51       |
| 98-99                                                                      | 84     | 33    | 392.50       | 1.87      | 67     | 2.05      | 156       | 534.76       |
| 99-100                                                                     | 51     | 21    | 415.60       | 1.75      | 40     | 1.91      | 89        | 571.43       |
| 100-101                                                                    | 30     | 13    | 440.00       | 1.64      | 23     | 1.77      | 49        | 609.76       |
| 101-102                                                                    | 17     | 8     | 465.76       | 1.53      | 13     | 1.65      | 26        | 653.59       |
| 102-103                                                                    | 9      | 4     | 492.93       | 1.43      | 7      | 1.53      | 13        | 699.30       |
| 103-104                                                                    | 5      | 3     | 521.58       | 1.33      | 3      | 1.42      | 6         | 751.88       |
| 104-105                                                                    | 2      | 1     | 551.79       | 1.24      | 2      | 1.31      | 3         | 806.45       |
| 105-106                                                                    | 1      | 1     | 583.63       | 1.15      | 1      | 1.21      | 1         | 869.57       |

TABLE 30

## LIFE TABLE FOR WHITE FEMALES IN CITIES

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (7,246,306), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Illinois, and Ohio for the years 1910 and 1911. An explanation of each column of the life tables is given

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            |         |       | Monthly rate. | In years. |       | Per month. |           | Annual rate. |
| 0-1                                                                | 100 000 | 3 874 | 38.74         | 51.39     | 8 091 | 25.08      | 5 139 231 | 19.46        |
| 1-2                                                                | 96 126  | 1 086 | 11.29         | 53.38     | 7 965 | 87.96      | 5 131 140 | 18.73        |
| 2-3                                                                | 95 040  | 923   | 9.71          | 53.91     | 7 882 | 102.48     | 5 123 175 | 18.55        |
| 3-4                                                                | 94 117  | 805   | 8.56          | 54.35     | 7 810 | 116.40     | 5 115 293 | 18.40        |
| 4-5                                                                | 93 312  | 722   | 7.74          | 54.74     | 7 746 | 128.76     | 5 107 483 | 18.27        |
| 5-6                                                                | 92 590  | 656   | 7.08          | 55.08     | 7 688 | 140.64     | 5 099 737 | 18.16        |
| 6-7                                                                | 91 934  | 602   | 6.55          | 55.39     | 7 636 | 152.16     | 5 092 049 | 18.05        |
| 7-8                                                                | 91 332  | 559   | 6.12          | 55.67     | 7 588 | 162.84     | 5 084 413 | 17.96        |
| 8-9                                                                | 90 773  | 521   | 5.74          | 55.93     | 7 543 | 173.76     | 5 076 825 | 17.88        |
| 9-10                                                               | 90 252  | 488   | 5.40          | 56.17     | 7 501 | 181.44     | 5 069 282 | 17.80        |
| 10-11                                                              | 89 761  | 457   | 5.09          | 56.39     | 7 461 | 195.96     | 5 061 781 | 17.73        |
| 11-12                                                              | 89 307  | 430   | 4.82          | 56.59     | 7 424 | 207.24     | 5 054 320 | 17.67        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 11 123 | 111.23       | 51.39     | 92 335 | 8.30      | 5 139 231 | 19.46        |
| 1-2                                                              | 88 877  | 2 708  | 30.47        | 56.79     | 87 279 | 32.23     | 5 046 896 | 17.61        |
| 2-3                                                              | 86 169  | 1 139  | 13.22        | 57.56     | 85 505 | 75.12     | 4 959 617 | 17.37        |
| 3-4                                                              | 85 030  | 753    | 8.85         | 57.32     | 84 638 | 112.40    | 4 874 032 | 17.45        |
| 4-5                                                              | 84 277  | 543    | 6.44         | 56.83     | 83 995 | 154.69    | 4 789 414 | 17.60        |
| 5-6                                                              | 83 734  | 439    | 5.25         | 56.19     | 83 514 | 190.24    | 4 705 419 | 17.80        |
| 6-7                                                              | 83 295  | 363    | 4.35         | 55.49     | 83 113 | 228.96    | 4 621 905 | 18.02        |
| 7-8                                                              | 82 932  | 296    | 3.58         | 54.73     | 82 784 | 279.68    | 4 538 792 | 18.27        |
| 8-9                                                              | 82 636  | 246    | 2.97         | 53.92     | 82 513 | 335.42    | 4 456 008 | 18.55        |
| 9-10                                                             | 82 390  | 207    | 2.52         | 53.08     | 82 287 | 397.52    | 4 373 495 | 18.84        |
| 10-11                                                            | 82 183  | 183    | 2.23         | 52.22     | 82 091 | 448.58    | 4 291 208 | 19.15        |
| 11-12                                                            | 82 000  | 172    | 2.10         | 51.33     | 81 914 | 476.24    | 4 209 117 | 19.48        |
| 12-13                                                            | 81 828  | 172    | 2.10         | 50.44     | 81 742 | 475.24    | 4 127 203 | 19.83        |
| 13-14                                                            | 81 656  | 180    | 2.21         | 49.54     | 81 566 | 453.14    | 4 045 461 | 20.19        |
| 14-15                                                            | 81 476  | 197    | 2.41         | 48.65     | 81 378 | 413.09    | 3 963 895 | 20.55        |
| 15-16                                                            | 81 279  | 219    | 2.70         | 47.77     | 81 170 | 370.64    | 3 882 517 | 20.93        |
| 16-17                                                            | 81 060  | 243    | 3.00         | 46.90     | 80 939 | 333.08    | 3 801 347 | 21.32        |
| 17-18                                                            | 80 817  | 264    | 3.28         | 46.03     | 80 685 | 305.63    | 3 720 408 | 21.72        |
| 18-19                                                            | 80 553  | 285    | 3.54         | 45.18     | 80 410 | 282.14    | 3 639 723 | 22.13        |
| 19-20                                                            | 80 268  | 306    | 3.82         | 44.34     | 80 115 | 261.81    | 3 559 313 | 22.55        |
| 20-21                                                            | 79 962  | 328    | 4.10         | 43.51     | 79 798 | 243.29    | 3 479 198 | 22.98        |
| 21-22                                                            | 79 634  | 347    | 4.35         | 42.69     | 79 460 | 228.99    | 3 399 400 | 23.42        |
| 22-23                                                            | 79 287  | 363    | 4.58         | 41.87     | 79 106 | 217.92    | 3 319 940 | 23.88        |
| 23-24                                                            | 78 924  | 377    | 4.78         | 41.06     | 78 736 | 208.85    | 3 240 834 | 24.35        |
| 24-25                                                            | 78 547  | 392    | 5.00         | 40.26     | 78 351 | 199.88    | 3 162 098 | 24.84        |
| 25-26                                                            | 78 155  | 408    | 5.23         | 39.46     | 77 951 | 191.06    | 3 083 747 | 25.34        |
| 26-27                                                            | 77 747  | 423    | 5.44         | 38.66     | 77 535 | 183.30    | 3 005 796 | 25.87        |
| 27-28                                                            | 77 324  | 436    | 5.64         | 37.87     | 77 106 | 176.85    | 2 928 261 | 26.41        |
| 28-29                                                            | 76 888  | 450    | 5.85         | 37.08     | 76 663 | 170.36    | 2 851 155 | 26.97        |
| 29-30                                                            | 76 438  | 464    | 6.08         | 36.30     | 76 206 | 164.24    | 2 774 492 | 27.55        |
| 30-31                                                            | 75 974  | 481    | 6.33         | 35.52     | 75 733 | 157.45    | 2 698 286 | 28.15        |
| 31-32                                                            | 75 493  | 498    | 6.60         | 34.74     | 75 244 | 151.09    | 2 622 553 | 28.79        |
| 32-33                                                            | 74 995  | 516    | 6.88         | 33.97     | 74 737 | 144.84    | 2 547 309 | 29.44        |
| 33-34                                                            | 74 479  | 532    | 7.15         | 33.20     | 74 213 | 139.50    | 2 472 572 | 30.12        |
| 34-35                                                            | 73 947  | 548    | 7.41         | 32.43     | 73 673 | 134.44    | 2 398 359 | 30.84        |
| 35-36                                                            | 73 399  | 563    | 7.67         | 31.67     | 73 118 | 129.87    | 2 324 686 | 31.58        |
| 36-37                                                            | 72 836  | 576    | 7.91         | 30.91     | 72 548 | 125.95    | 2 251 568 | 32.35        |
| 37-38                                                            | 72 260  | 587    | 8.12         | 30.16     | 71 967 | 122.60    | 2 179 020 | 33.16        |
| 38-39                                                            | 71 673  | 598    | 8.34         | 29.40     | 71 374 | 119.35    | 2 107 053 | 34.01        |
| 39-40                                                            | 71 075  | 609    | 8.58         | 28.64     | 70 771 | 116.21    | 2 035 679 | 34.92        |
| 40-41                                                            | 70 466  | 622    | 8.83         | 27.88     | 70 155 | 112.79    | 1 964 908 | 35.87        |
| 41-42                                                            | 69 844  | 638    | 9.14         | 27.13     | 69 525 | 108.97    | 1 894 753 | 36.86        |
| 42-43                                                            | 69 206  | 662    | 9.55         | 26.37     | 68 875 | 104.04    | 1 825 228 | 37.92        |
| 43-44                                                            | 68 544  | 688    | 10.05        | 25.62     | 68 200 | 99.13     | 1 756 353 | 39.03        |
| 44-45                                                            | 67 856  | 719    | 10.59        | 24.88     | 67 496 | 93.87     | 1 688 153 | 40.19        |



## OF THE ORIGINAL REGISTRATION STATES: 1910.

## TABLE 30

REPORTED DEATHS IN 1909 (101,088), IN 1910 (107,757), AND IN 1911 (104,586).

Michigan, and the District of Columbia. The term "cities" means municipalities of 8,000 or more inhabitants in 1900 for the year 1909, and of 10,000 or more inhabitants on pages 25 to 29, and illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 67 137 | 752   | 11.20        | 24.14     | 66 761 | 88.78     | 1 620 637 | 41.43        |
| 46-47                                                                      | 66 385 | 785   | 11.81        | 23.41     | 65 992 | 84.07     | 1 553 896 | 42.72        |
| 47-48                                                                      | 65 600 | 817   | 12.45        | 22.68     | 65 191 | 79.79     | 1 487 904 | 44.09        |
| 48-49                                                                      | 64 783 | 847   | 13.07        | 21.96     | 64 359 | 75.98     | 1 422 713 | 45.54        |
| 49-50                                                                      | 63 936 | 878   | 13.74        | 21.25     | 63 497 | 72.32     | 1 358 354 | 47.06        |
| 50-51                                                                      | 63 058 | 911   | 14.44        | 20.53     | 62 603 | 68.72     | 1 294 857 | 48.71        |
| 51-52                                                                      | 62 147 | 948   | 15.27        | 19.83     | 61 673 | 65.06     | 1 232 254 | 50.43        |
| 52-53                                                                      | 61 199 | 1 000 | 16.33        | 19.13     | 60 699 | 60.70     | 1 170 581 | 52.27        |
| 53-54                                                                      | 60 199 | 1 063 | 17.66        | 18.44     | 59 668 | 56.13     | 1 109 882 | 54.23        |
| 54-55                                                                      | 59 136 | 1 135 | 19.19        | 17.76     | 58 569 | 51.60     | 1 050 214 | 56.31        |
| 55-56                                                                      | 58 001 | 1 216 | 20.98        | 17.10     | 57 393 | 47.20     | 991 645   | 58.48        |
| 56-57                                                                      | 56 785 | 1 303 | 22.95        | 16.45     | 56 133 | 43.08     | 934 252   | 60.79        |
| 57-58                                                                      | 55 482 | 1 380 | 24.87        | 15.83     | 54 792 | 39.70     | 878 119   | 63.17        |
| 58-59                                                                      | 54 102 | 1 444 | 26.70        | 15.22     | 53 380 | 36.97     | 823 327   | 65.70        |
| 59-60                                                                      | 52 658 | 1 509 | 28.65        | 14.62     | 51 903 | 34.40     | 769 947   | 68.40        |
| 60-61                                                                      | 51 149 | 1 568 | 30.65        | 14.04     | 50 365 | 32.12     | 718 044   | 71.23        |
| 61-62                                                                      | 49 581 | 1 627 | 32.83        | 13.47     | 48 768 | 29.97     | 667 679   | 74.24        |
| 62-63                                                                      | 47 954 | 1 697 | 35.38        | 12.91     | 47 105 | 27.76     | 618 911   | 77.46        |
| 63-64                                                                      | 46 257 | 1 771 | 38.29        | 12.36     | 45 372 | 25.62     | 571 806   | 80.91        |
| 64-65                                                                      | 44 486 | 1 839 | 41.33        | 11.83     | 43 567 | 23.69     | 526 434   | 84.53        |
| 65-66                                                                      | 42 647 | 1 899 | 44.54        | 11.32     | 41 698 | 21.96     | 482 867   | 88.34        |
| 66-67                                                                      | 40 748 | 1 953 | 47.93        | 10.83     | 39 771 | 20.36     | 441 169   | 92.34        |
| 67-68                                                                      | 38 795 | 1 996 | 51.45        | 10.35     | 37 797 | 18.94     | 401 398   | 96.62        |
| 68-69                                                                      | 36 799 | 2 030 | 55.15        | 9.88      | 35 784 | 17.63     | 363 601   | 101.21       |
| 69-70                                                                      | 34 769 | 2 056 | 59.16        | 9.43      | 33 741 | 16.41     | 327 817   | 106.04       |
| 70-71                                                                      | 32 713 | 2 078 | 63.50        | 8.99      | 31 674 | 15.24     | 294 076   | 111.23       |
| 71-72                                                                      | 30 635 | 2 086 | 68.10        | 8.57      | 29 592 | 14.19     | 262 402   | 116.69       |
| 72-73                                                                      | 28 549 | 2 080 | 72.87        | 8.15      | 27 509 | 13.23     | 232 810   | 122.70       |
| 73-74                                                                      | 26 469 | 2 062 | 77.89        | 7.76      | 25 438 | 12.34     | 205 301   | 128.87       |
| 74-75                                                                      | 24 407 | 2 034 | 83.32        | 7.37      | 23 390 | 11.50     | 179 863   | 135.69       |
| 75-76                                                                      | 22 373 | 1 995 | 89.20        | 6.99      | 21 376 | 10.71     | 156 473   | 143.06       |
| 76-77                                                                      | 20 378 | 1 948 | 95.56        | 6.63      | 19 404 | 9.96      | 135 097   | 150.83       |
| 77-78                                                                      | 18 430 | 1 890 | 102.60       | 6.28      | 17 485 | 9.25      | 115 693   | 159.24       |
| 78-79                                                                      | 16 540 | 1 827 | 110.46       | 5.94      | 15 626 | 8.55      | 98 208    | 168.35       |
| 79-80                                                                      | 14 713 | 1 758 | 119.47       | 5.61      | 13 834 | 7.87      | 82 582    | 178.25       |
| 80-81                                                                      | 12 955 | 1 687 | 130.21       | 5.31      | 12 111 | 7.18      | 68 748    | 188.32       |
| 81-82                                                                      | 11 268 | 1 594 | 141.49       | 5.03      | 10 471 | 6.57      | 56 637    | 198.81       |
| 82-83                                                                      | 9 674  | 1 467 | 151.64       | 4.77      | 8 910  | 6.09      | 46 166    | 209.64       |
| 83-84                                                                      | 8 207  | 1 316 | 160.37       | 4.54      | 7 549  | 5.74      | 37 226    | 220.26       |
| 84-85                                                                      | 6 891  | 1 167 | 169.38       | 4.31      | 6 307  | 5.40      | 29 677    | 232.02       |
| 85-86                                                                      | 5 724  | 1 029 | 179.79       | 4.08      | 5 209  | 5.06      | 23 370    | 245.10       |
| 86-87                                                                      | 4 695  | 896   | 190.78       | 3.87      | 4 247  | 4.74      | 18 161    | 258.40       |
| 87-88                                                                      | 3 799  | 770   | 202.62       | 3.66      | 3 414  | 4.44      | 13 914    | 273.22       |
| 88-89                                                                      | 3 029  | 653   | 215.54       | 3.47      | 2 703  | 4.14      | 10 500    | 288.18       |
| 89-90                                                                      | 2 376  | 545   | 229.63       | 3.28      | 2 103  | 3.85      | 7 797     | 304.88       |
| 90-91                                                                      | 1 831  | 448   | 244.72       | 3.11      | 1 607  | 3.59      | 5 694     | 321.54       |
| 91-92                                                                      | 1 383  | 360   | 260.13       | 2.96      | 1 203  | 3.34      | 4 087     | 337.84       |
| 92-93                                                                      | 1 023  | 281   | 274.75       | 2.82      | 882    | 3.14      | 2 884     | 354.61       |
| 93-94                                                                      | 742    | 213   | 287.57       | 2.70      | 635    | 2.98      | 2 002     | 370.37       |
| 94-95                                                                      | 529    | 158   | 298.14       | 2.59      | 450    | 2.85      | 1 367     | 386.10       |
| 95-96                                                                      | 371    | 114   | 307.06       | 2.47      | 314    | 2.76      | 917       | 404.86       |
| 96-97                                                                      | 257    | 81    | 316.15       | 2.35      | 216    | 2.66      | 603       | 425.53       |
| 97-98                                                                      | 176    | 58    | 328.36       | 2.20      | 147    | 2.55      | 387       | 454.55       |
| 98-99                                                                      | 118    | 41    | 347.03       | 2.03      | 98     | 2.38      | 240       | 492.61       |
| 99-100                                                                     | 77     | 29    | 374.97       | 1.84      | 63     | 2.17      | 142       | 543.48       |
| 100-101                                                                    | 48     | 20    | 413.64       | 1.65      | 38     | 1.92      | 79        | 606.06       |
| 101-102                                                                    | 28     | 13    | 462.78       | 1.45      | 22     | 1.66      | 41        | 689.66       |
| 102-103                                                                    | 15     | 8     | 520.59       | 1.27      | 11     | 1.42      | 19        | 787.40       |
| 103-104                                                                    | 7      | 4     | 583.87       | 1.12      | 5      | 1.21      | 8         | 892.86       |
| 104-105                                                                    | 3      | 2     | 648.73       | .98       | 2      | 1.04      | 3         | .....        |
| 105-106                                                                    | 1      | 1     | 711.50       | .87       | 1      | .91       | 1         | .....        |

TABLE 31

## LIFE TABLE FOR WHITE MALES IN RURAL PART

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (4,697,259), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, the year 1900, and of 10,000 or more inhabitants in 1910 for the years 1910 and 1911. An explanation of each column of the

| AGE INTERVAL. | OF 100,000 MALES BORN ALIVE:               |                                            | RATE OF MORTALITY PER THOUSAND. | COMPLETE EXPECTATION OF LIFE.                                                | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                                       |                                                                    |                                                                                              |
|---------------|--------------------------------------------|--------------------------------------------|---------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|               |                                            |                                            |                                 |                                                                              | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
|               | Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval.   | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval.                                                                                                                        | Including only those in current month or year of age. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$  | $l_x$                                      | $d_x$                                      | $1000q_x$                       | $e_x$                                                                        | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1             | 2                                          | 3                                          | 4                               | 5                                                                            | 6                                                                                                                                                                                                       | 7                                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            | 100 000 | 4 194 | Monthly rate. | In years. | 8 071 | Per month. | 5 403 110 | Annual rate. |
| 0-1                                                                | 93 806  | 1 016 | 41.94         | 54.03     | 7 942 | 23.04      | 5 395 939 | 18.51        |
| 1-2                                                                | 91 790  | 909   | 10.61         | 56.31     | 7 861 | 93.84      | 5 387 097 | 17.76        |
| 2-3                                                                | 93 881  | 810   | 9.59          | 56.83     | 7 790 | 103.80     | 5 379 236 | 17.60        |
| 3-4                                                                | 93 071  | 715   | 8.62          | 57.30     | 7 726 | 115.44     | 5 371 416 | 17.45        |
| 4-5                                                                | 92 356  | 632   | 7.68          | 57.71     | 7 670 | 129.72     | 5 363 720 | 17.33        |
| 5-6                                                                |         |       | 6.84          | 58.08     |       | 145.68     |           | 17.22        |
| 6-7                                                                | 91 724  | 564   | 6.15          | 58.39     | 7 620 | 162.12     | 5 356 050 | 17.13        |
| 7-8                                                                | 91 160  | 501   | 5.52          | 58.67     | 7 576 | 180.36     | 5 348 440 | 17.04        |
| 8-9                                                                | 90 656  | 451   | 4.98          | 58.91     | 7 536 | 200.52     | 5 340 851 | 16.98        |
| 9-10                                                               | 90 205  | 403   | 4.47          | 59.12     | 7 500 | 223.32     | 5 333 318 | 16.91        |
| 10-11                                                              | 89 802  | 364   | 4.05          | 59.31     | 7 468 | 246.24     | 5 325 818 | 16.86        |
| 11-12                                                              | 89 438  | 338   | 3.78          | 59.46     | 7 439 | 264.12     | 5 318 350 | 16.82        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           | 100 000 | 10 900 | Annual rate. | In years. | 92 199 | Per year. | 5 403 110 | Annual rate. |
| 0-1                                                              | 89 100  | 2 165  | 109.00       | 54.03     | 87 823 | 8.46      | 5 310 911 | 18.51        |
| 1-2                                                              | 86 935  | 923    | 24.30        | 59.61     | 86 446 | 40.56     | 5 223 088 | 16.74        |
| 2-3                                                              | 86 012  | 591    | 10.62        | 60.08     | 85 704 | 93.66     | 5 136 642 | 16.64        |
| 3-4                                                              | 85 421  | 464    | 6.87         | 59.72     | 85 180 | 145.02    | 5 050 938 | 16.91        |
| 4-5                                                              |         |        | 5.43         | 59.13     |        | 183.58    |           |              |
| 5-6                                                              | 84 957  | 369    | 4.35         | 58.45     | 84 772 | 229.73    | 4 965 758 | 17.11        |
| 6-7                                                              | 84 588  | 303    | 3.58         | 57.70     | 84 436 | 278.67    | 4 880 986 | 17.33        |
| 7-8                                                              | 84 285  | 257    | 3.05         | 56.91     | 84 156 | 327.46    | 4 796 550 | 17.57        |
| 8-9                                                              | 84 028  | 225    | 2.68         | 56.08     | 83 916 | 372.96    | 4 712 394 | 17.83        |
| 9-10                                                             | 83 803  | 202    | 2.41         | 55.23     | 83 702 | 414.37    | 4 628 478 | 18.11        |
| 10-11                                                            | 83 601  | 191    | 2.29         | 54.36     | 83 506 | 437.20    | 4 544 776 | 18.40        |
| 11-12                                                            | 83 410  | 191    | 2.29         | 53.49     | 83 315 | 436.20    | 4 461 270 | 18.70        |
| 12-13                                                            | 83 219  | 199    | 2.40         | 52.61     | 83 119 | 417.68    | 4 377 955 | 19.01        |
| 13-14                                                            | 83 020  | 217    | 2.61         | 51.73     | 82 911 | 382.08    | 4 294 836 | 19.33        |
| 14-15                                                            | 82 803  | 239    | 2.89         | 50.87     | 82 684 | 345.96    | 4 211 925 | 19.66        |
| 15-16                                                            | 82 564  | 267    | 3.24         | 50.01     | 82 430 | 308.73    | 4 129 241 | 20.00        |
| 16-17                                                            | 82 297  | 300    | 3.65         | 49.17     | 82 147 | 273.82    | 4 046 811 | 20.34        |
| 17-18                                                            | 81 997  | 332    | 4.01         | 48.35     | 81 831 | 246.48    | 3 964 664 | 20.68        |
| 18-19                                                            | 81 665  | 359    | 4.39         | 47.55     | 81 486 | 226.98    | 3 882 833 | 21.03        |
| 19-20                                                            | 81 306  | 382    | 4.70         | 46.75     | 81 115 | 212.34    | 3 801 347 | 21.39        |
| 20-21                                                            | 80 924  | 408    | 5.04         | 45.97     | 80 720 | 197.84    | 3 720 232 | 21.75        |
| 21-22                                                            | 80 516  | 434    | 5.39         | 45.20     | 80 299 | 185.02    | 3 639 512 | 22.12        |
| 22-23                                                            | 80 082  | 453    | 5.66         | 44.44     | 79 855 | 176.28    | 3 559 213 | 22.50        |
| 23-24                                                            | 79 629  | 460    | 5.78         | 43.69     | 79 399 | 172.61    | 3 479 358 | 22.89        |
| 24-25                                                            | 79 169  | 459    | 5.80         | 42.95     | 78 939 | 171.98    | 3 399 959 | 23.28        |
| 25-26                                                            | 78 710  | 458    | 5.81         | 42.19     | 78 481 | 171.36    | 3 321 020 | 23.70        |
| 26-27                                                            | 78 252  | 454    | 5.81         | 41.44     | 78 025 | 171.86    | 3 242 539 | 24.13        |
| 27-28                                                            | 77 798  | 452    | 5.81         | 40.68     | 77 572 | 171.62    | 3 164 514 | 24.58        |
| 28-29                                                            | 77 346  | 450    | 5.82         | 39.91     | 77 121 | 171.38    | 3 086 942 | 25.06        |
| 29-30                                                            | 76 896  | 449    | 5.84         | 39.14     | 76 672 | 170.76    | 3 009 821 | 25.55        |
| 30-31                                                            | 76 447  | 446    | 5.84         | 38.37     | 76 224 | 170.91    | 2 933 149 | 26.06        |
| 31-32                                                            | 76 001  | 443    | 5.83         | 37.59     | 75 779 | 171.06    | 2 856 925 | 26.60        |
| 32-33                                                            | 75 558  | 443    | 5.86         | 36.81     | 75 336 | 170.06    | 2 781 146 | 27.17        |
| 33-34                                                            | 75 115  | 448    | 5.96         | 36.02     | 74 891 | 167.17    | 2 705 810 | 27.76        |
| 34-35                                                            | 74 667  | 455    | 6.10         | 35.24     | 74 440 | 163.60    | 2 630 919 | 28.38        |
| 35-36                                                            | 74 212  | 463    | 6.24         | 34.45     | 73 980 | 159.78    | 2 556 479 | 29.03        |
| 36-37                                                            | 73 749  | 473    | 6.41         | 33.66     | 73 512 | 155.42    | 2 482 499 | 29.71        |
| 37-38                                                            | 73 276  | 482    | 6.58         | 32.88     | 73 035 | 151.52    | 2 408 987 | 30.41        |
| 38-39                                                            | 72 794  | 491    | 6.75         | 32.09     | 72 549 | 147.76    | 2 335 952 | 31.16        |
| 39-40                                                            | 72 303  | 501    | 6.93         | 31.30     | 72 053 | 143.82    | 2 263 403 | 31.95        |
| 40-41                                                            | 71 802  | 512    | 7.13         | 30.52     | 71 546 | 139.74    | 2 191 350 | 32.77        |
| 41-42                                                            | 71 290  | 524    | 7.35         | 29.73     | 71 029 | 135.55    | 2 119 804 | 33.64        |
| 42-43                                                            | 70 766  | 538    | 7.60         | 28.95     | 70 497 | 131.04    | 2 048 776 | 34.54        |
| 43-44                                                            | 70 228  | 554    | 7.89         | 28.17     | 69 951 | 126.27    | 1 978 279 | 35.50        |
| 44-45                                                            | 69 674  | 572    | 8.21         | 27.39     | 69 388 | 121.31    | 1 908 328 | 36.51        |

## OF THE ORIGINAL REGISTRATION STATES: 1901.

## TABLE 31

REPORTED DEATHS IN 1900 (72,251), IN 1901 (68,563), AND IN 1902 (63,756).

Michigan, and the District of Columbia. The "rural part of the registration states" is that which is exclusive of municipalities of 8,000 or more inhabitants in 1900 for life tables is given on pages 25 to 29, and illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE<br>INTERVAL. | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                  |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
|                  | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 69 102 | 593   | 8.58         | 26.61     | 68 806 | 116.03    | 1 838 940 | 37.58        |
| 46-47                                                                      | 68 509 | 617   | 9.00         | 25.84     | 68 201 | 110.54    | 1 770 134 | 38.70        |
| 47-48                                                                      | 67 892 | 640   | 9.44         | 25.07     | 67 572 | 105.58    | 1 701 933 | 39.89        |
| 48-49                                                                      | 67 252 | 663   | 9.85         | 24.30     | 66 920 | 100.94    | 1 634 361 | 41.15        |
| 49-50                                                                      | 66 589 | 682   | 10.25        | 23.54     | 66 248 | 97.14     | 1 567 441 | 42.48        |
| 50-51                                                                      | 65 907 | 706   | 10.71        | 22.78     | 65 554 | 92.85     | 1 501 193 | 43.90        |
| 51-52                                                                      | 65 201 | 730   | 11.19        | 22.02     | 64 836 | 88.82     | 1 435 639 | 45.11        |
| 52-53                                                                      | 64 471 | 761   | 11.80        | 21.26     | 64 091 | 84.22     | 1 370 803 | 47.04        |
| 53-54                                                                      | 63 710 | 803   | 12.61        | 20.51     | 63 309 | 78.84     | 1 306 712 | 48.76        |
| 54-55                                                                      | 62 907 | 857   | 13.62        | 19.77     | 62 479 | 72.90     | 1 243 403 | 50.58        |
| 55-56                                                                      | 62 050 | 914   | 14.74        | 19.03     | 61 593 | 67.39     | 1 180 924 | 52.55        |
| 56-57                                                                      | 61 136 | 979   | 16.01        | 18.31     | 60 646 | 61.95     | 1 119 331 | 54.61        |
| 57-58                                                                      | 60 157 | 1 016 | 17.38        | 17.60     | 59 634 | 57.01     | 1 058 685 | 56.82        |
| 58-59                                                                      | 59 111 | 1 108 | 18.75        | 16.90     | 58 557 | 52.85     | 999 051   | 59.17        |
| 59-60                                                                      | 58 003 | 1 169 | 20.15        | 16.21     | 57 418 | 49.12     | 940 494   | 61.69        |
| 60-61                                                                      | 56 834 | 1 232 | 21.68        | 15.54     | 56 218 | 45.63     | 883 076   | 64.35        |
| 61-62                                                                      | 55 602 | 1 296 | 23.30        | 14.87     | 54 954 | 42.40     | 826 858   | 67.25        |
| 62-63                                                                      | 54 306 | 1 370 | 25.23        | 14.21     | 53 621 | 39.14     | 771 904   | 70.37        |
| 63-64                                                                      | 52 936 | 1 463 | 27.64        | 13.57     | 52 204 | 35.68     | 718 283   | 73.69        |
| 64-65                                                                      | 51 473 | 1 569 | 30.47        | 12.94     | 50 688 | 32.31     | 666 079   | 77.28        |
| 65-66                                                                      | 49 904 | 1 670 | 33.47        | 12.33     | 49 069 | 29.38     | 615 391   | 81.10        |
| 66-67                                                                      | 48 234 | 1 771 | 36.72        | 11.74     | 47 348 | 26.74     | 566 322   | 85.18        |
| 67-68                                                                      | 46 463 | 1 866 | 40.15        | 11.17     | 45 530 | 24.40     | 518 974   | 89.53        |
| 68-69                                                                      | 44 597 | 1 949 | 43.70        | 10.62     | 43 623 | 22.38     | 473 444   | 94.16        |
| 69-70                                                                      | 42 648 | 2 023 | 47.45        | 10.08     | 41 636 | 20.58     | 429 821   | 99.21        |
| 70-71                                                                      | 40 625 | 2 093 | 51.52        | 9.56      | 39 578 | 18.91     | 388 185   | 104.60       |
| 71-72                                                                      | 38 532 | 2 155 | 55.92        | 9.05      | 37 454 | 17.38     | 348 607   | 110.50       |
| 72-73                                                                      | 36 377 | 2 211 | 60.77        | 8.55      | 35 272 | 15.95     | 311 153   | 116.96       |
| 73-74                                                                      | 34 166 | 2 257 | 66.07        | 8.07      | 33 038 | 14.64     | 275 881   | 123.92       |
| 74-75                                                                      | 31 909 | 2 297 | 72.00        | 7.61      | 30 760 | 13.39     | 242 843   | 131.41       |
| 75-76                                                                      | 29 612 | 2 331 | 78.70        | 7.16      | 28 447 | 12.20     | 212 083   | 139.66       |
| 76-77                                                                      | 27 281 | 2 355 | 86.35        | 6.73      | 26 103 | 11.08     | 183 636   | 148.59       |
| 77-78                                                                      | 24 926 | 2 371 | 95.10        | 6.32      | 23 740 | 10.01     | 157 533   | 158.23       |
| 78-79                                                                      | 22 555 | 2 367 | 104.96       | 5.93      | 21 372 | 9.03      | 133 793   | 168.63       |
| 79-80                                                                      | 20 188 | 2 338 | 115.79       | 5.57      | 19 019 | 8.13      | 112 421   | 179.53       |
| 80-81                                                                      | 17 850 | 2 272 | 127.32       | 5.23      | 16 714 | 7.35      | 93 402    | 191.20       |
| 81-82                                                                      | 15 578 | 2 163 | 139.19       | 4.92      | 14 494 | 6.68      | 76 688    | 203.25       |
| 82-83                                                                      | 13 410 | 2 027 | 151.12       | 4.64      | 12 396 | 6.12      | 62 194    | 215.32       |
| 83-84                                                                      | 11 383 | 1 855 | 162.97       | 4.37      | 10 456 | 5.64      | 49 798    | 228.83       |
| 84-85                                                                      | 9 528  | 1 665 | 174.76       | 4.13      | 8 695  | 5.22      | 39 312    | 242.13       |
| 85-86                                                                      | 7 863  | 1 468 | 186.67       | 3.90      | 7 129  | 4.86      | 30 647    | 256.41       |
| 86-87                                                                      | 6 395  | 1 273 | 199.02       | 3.68      | 5 759  | 4.52      | 23 518    | 271.74       |
| 87-88                                                                      | 5 122  | 1 086 | 212.08       | 3.47      | 4 579  | 4.22      | 17 759    | 288.18       |
| 88-89                                                                      | 4 036  | 912   | 226.06       | 3.27      | 3 580  | 3.92      | 13 180    | 305.81       |
| 89-90                                                                      | 3 124  | 753   | 241.05       | 3.07      | 2 747  | 3.65      | 9 600     | 325.73       |
| 90-91                                                                      | 2 371  | 610   | 257.02       | 2.89      | 2 066  | 3.39      | 6 833     | 346.02       |
| 91-92                                                                      | 1 761  | 482   | 273.85       | 2.72      | 1 520  | 3.15      | 4 787     | 367.65       |
| 92-93                                                                      | 1 279  | 373   | 291.49       | 2.56      | 1 093  | 2.93      | 3 267     | 390.63       |
| 93-94                                                                      | 906    | 281   | 309.90       | 2.40      | 766    | 2.73      | 2 174     | 416.67       |
| 94-95                                                                      | 625    | 205   | 329.16       | 2.25      | 522    | 2.54      | 1 408     | 444.44       |
| 95-96                                                                      | 420    | 147   | 349.43       | 2.11      | 346    | 2.36      | 886       | 473.93       |
| 96-97                                                                      | 273    | 101   | 370.87       | 1.98      | 222    | 2.20      | 540       | 505.05       |
| 97-98                                                                      | 172    | 68    | 393.62       | 1.86      | 138    | 2.04      | 318       | 537.63       |
| 98-99                                                                      | 104    | 43    | 417.71       | 1.74      | 82     | 1.89      | 180       | 574.71       |
| 99-100                                                                     | 61     | 27    | 443.05       | 1.62      | 47     | 1.76      | 98        | 617.28       |
| 100-101                                                                    | 34     | 16    | 469.66       | 1.51      | 26     | 1.63      | 51        | 662.25       |
| 101-102                                                                    | 18     | 9     | 497.88       | 1.41      | 13     | 1.51      | 25        | 709.22       |
| 102-103                                                                    | 9      | 5     | 526.83       | 1.33      | 7      | 1.40      | 12        | 757.58       |
| 103-104                                                                    | 4      | 2     | 557.42       | 1.23      | 3      | 1.29      | 5         | 813.01       |
| 104-105                                                                    | 2      | 1     | 589.38       | 1.14      | 1      | 1.20      | 2         | 877.19       |
| 105-106                                                                    | 1      | 1     | 622.69       | 1.06      | 1      | 1.11      | 1         | 943.40       |

TABLE 32

## LIFE TABLE FOR WHITE MALES IN RURAL PART

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (4,721,941), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, the year 1909, and of 10,000 or more inhabitants in 1910 for the years 1910 and 1911. An explanation of each column of the

| AGE INTERVAL.                                                      | OF 100,000 MALES BORN ALIVE:               |                                            | RATE OF MORTALITY PER THOUSAND. | COMPLETE EXPECTATION OF LIFE.                                                | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                                       |                                                    |                                                                    |
|--------------------------------------------------------------------|--------------------------------------------|--------------------------------------------|---------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------|
|                                                                    |                                            |                                            |                                 |                                                                              | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS. | DEATH RATE PER THOUSAND.                                           |
|                                                                    | Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval.   | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval.                                                                                                                        | Including only those in current month or year of age. | Population per death in age interval.              | Sum of numbers in column 6 in current and all older age intervals. |
| $x$ to $x+1$                                                       | $l_x$                                      | $d_x$                                      | $1000q_x$                       | $e_x$                                                                        | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                                             | $T_x$                                              | $1000l_x/T_x$                                                      |
| 1                                                                  | 2                                          | 3                                          | 4                               | 5                                                                            | 6                                                                                                                                                                                                       | 7                                                     | 8                                                  | 9                                                                  |
| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |                                            |                                            |                                 |                                                                              |                                                                                                                                                                                                         |                                                       |                                                    |                                                                    |
| Months.                                                            | 100 000                                    | 1 570                                      | Monthly rate.                   | In years.                                                                    | 8 048                                                                                                                                                                                                   | Per month.                                            | 5 506 488                                          | Annual rate.                                                       |
| 0-1                                                                | 100 000                                    | 1 570                                      | 45.70                           | 55.06                                                                        | 8 048                                                                                                                                                                                                   | 21.12                                                 | 5 506 488                                          | 18.16                                                              |
| 1-2                                                                | 95 430                                     | 997                                        | 10.45                           | 57.62                                                                        | 7 911                                                                                                                                                                                                   | 95.16                                                 | 5 498 410                                          | 17.36                                                              |
| 2-3                                                                | 94 433                                     | 822                                        | 8.71                            | 58.14                                                                        | 7 835                                                                                                                                                                                                   | 114.36                                                | 5 490 529                                          | 17.20                                                              |
| 3-4                                                                | 93 611                                     | 699                                        | 7.47                            | 58.57                                                                        | 7 772                                                                                                                                                                                                   | 133.44                                                | 5 482 694                                          | 17.07                                                              |
| 4-5                                                                | 92 912                                     | 595                                        | 6.40                            | 58.93                                                                        | 7 718                                                                                                                                                                                                   | 155.64                                                | 5 474 922                                          | 16.97                                                              |
| 5-6                                                                | 92 317                                     | 515                                        | 5.58                            | 59.22                                                                        | 7 672                                                                                                                                                                                                   | 178.80                                                | 5 467 204                                          | 16.89                                                              |
| 6-7                                                                | 91 802                                     | 459                                        | 5.00                            | 59.47                                                                        | 7 631                                                                                                                                                                                                   | 199.56                                                | 5 459 532                                          | 16.82                                                              |
| 7-8                                                                | 91 343                                     | 408                                        | 4.46                            | 59.69                                                                        | 7 595                                                                                                                                                                                                   | 223.44                                                | 5 451 901                                          | 16.75                                                              |
| 8-9                                                                | 90 935                                     | 363                                        | 3.99                            | 59.87                                                                        | 7 563                                                                                                                                                                                                   | 249.96                                                | 5 444 306                                          | 16.70                                                              |
| 9-10                                                               | 90 572                                     | 325                                        | 3.59                            | 60.03                                                                        | 7 534                                                                                                                                                                                                   | 278.16                                                | 5 436 743                                          | 16.66                                                              |
| 10-11                                                              | 90 247                                     | 296                                        | 3.28                            | 60.16                                                                        | 7 508                                                                                                                                                                                                   | 301.32                                                | 5 429 209                                          | 16.62                                                              |
| 11-12                                                              | 89 951                                     | 277                                        | 3.08                            | 60.27                                                                        | 7 484                                                                                                                                                                                                   | 324.24                                                | 5 421 701                                          | 16.59                                                              |
| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.   |                                            |                                            |                                 |                                                                              |                                                                                                                                                                                                         |                                                       |                                                    |                                                                    |
| Years.                                                             | 100 000                                    | 10 326                                     | Annual rate.                    | In years.                                                                    | 92 271                                                                                                                                                                                                  | Per year.                                             | 5 506 488                                          | Annual rate.                                                       |
| 0-1                                                                | 100 000                                    | 10 326                                     | 103.26                          | 55.06                                                                        | 92 271                                                                                                                                                                                                  | 8.94                                                  | 5 506 488                                          | 18.16                                                              |
| 1-2                                                                | 89 674                                     | 1 779                                      | 19.84                           | 60.38                                                                        | 88 625                                                                                                                                                                                                  | 49.82                                                 | 5 414 217                                          | 16.56                                                              |
| 2-3                                                                | 87 895                                     | 799                                        | 9.10                            | 60.59                                                                        | 87 472                                                                                                                                                                                                  | 109.18                                                | 5 325 592                                          | 16.50                                                              |
| 3-4                                                                | 87 096                                     | 512                                        | 5.87                            | 60.14                                                                        | 86 830                                                                                                                                                                                                  | 169.59                                                | 5 238 120                                          | 16.63                                                              |
| 4-5                                                                | 86 584                                     | 361                                        | 4.17                            | 59.49                                                                        | 86 396                                                                                                                                                                                                  | 239.32                                                | 5 151 290                                          | 16.81                                                              |
| 5-6                                                                | 86 223                                     | 304                                        | 3.53                            | 58.74                                                                        | 86 071                                                                                                                                                                                                  | 283.13                                                | 5 064 894                                          | 17.02                                                              |
| 6-7                                                                | 85 919                                     | 262                                        | 3.05                            | 57.95                                                                        | 85 788                                                                                                                                                                                                  | 327.44                                                | 4 978 823                                          | 17.26                                                              |
| 7-8                                                                | 85 657                                     | 227                                        | 2.65                            | 57.12                                                                        | 85 543                                                                                                                                                                                                  | 376.81                                                | 4 893 035                                          | 17.51                                                              |
| 8-9                                                                | 85 430                                     | 202                                        | 2.36                            | 56.27                                                                        | 85 329                                                                                                                                                                                                  | 422.42                                                | 4 807 492                                          | 17.77                                                              |
| 9-10                                                               | 85 228                                     | 185                                        | 2.17                            | 55.41                                                                        | 85 136                                                                                                                                                                                                  | 460.19                                                | 4 722 163                                          | 18.05                                                              |
| 10-11                                                              | 85 043                                     | 176                                        | 2.07                            | 54.53                                                                        | 84 955                                                                                                                                                                                                  | 482.70                                                | 4 637 027                                          | 18.34                                                              |
| 11-12                                                              | 84 867                                     | 175                                        | 2.06                            | 53.64                                                                        | 84 780                                                                                                                                                                                                  | 484.16                                                | 4 552 072                                          | 18.64                                                              |
| 12-13                                                              | 84 692                                     | 181                                        | 2.14                            | 52.75                                                                        | 84 602                                                                                                                                                                                                  | 467.41                                                | 4 467 292                                          | 18.96                                                              |
| 13-14                                                              | 84 511                                     | 193                                        | 2.28                            | 51.86                                                                        | 84 416                                                                                                                                                                                                  | 437.38                                                | 4 382 690                                          | 19.28                                                              |
| 14-15                                                              | 84 318                                     | 208                                        | 2.47                            | 50.98                                                                        | 84 214                                                                                                                                                                                                  | 404.88                                                | 4 298 275                                          | 19.62                                                              |
| 15-16                                                              | 84 110                                     | 227                                        | 2.69                            | 50.10                                                                        | 83 997                                                                                                                                                                                                  | 370.03                                                | 4 214 061                                          | 19.96                                                              |
| 16-17                                                              | 83 883                                     | 250                                        | 2.98                            | 49.24                                                                        | 83 758                                                                                                                                                                                                  | 335.03                                                | 4 130 061                                          | 20.31                                                              |
| 17-18                                                              | 83 633                                     | 282                                        | 3.38                            | 48.38                                                                        | 83 492                                                                                                                                                                                                  | 296.07                                                | 4 046 306                                          | 20.67                                                              |
| 18-19                                                              | 83 351                                     | 320                                        | 3.83                            | 47.54                                                                        | 83 191                                                                                                                                                                                                  | 259.97                                                | 3 962 814                                          | 21.03                                                              |
| 19-20                                                              | 83 031                                     | 357                                        | 4.31                            | 46.72                                                                        | 82 853                                                                                                                                                                                                  | 232.08                                                | 3 879 623                                          | 21.40                                                              |
| 20-21                                                              | 82 674                                     | 399                                        | 4.83                            | 45.92                                                                        | 82 474                                                                                                                                                                                                  | 206.70                                                | 3 796 770                                          | 21.78                                                              |
| 21-22                                                              | 82 275                                     | 428                                        | 5.20                            | 45.14                                                                        | 82 061                                                                                                                                                                                                  | 191.73                                                | 3 714 296                                          | 22.15                                                              |
| 22-23                                                              | 81 847                                     | 435                                        | 5.31                            | 44.38                                                                        | 81 629                                                                                                                                                                                                  | 187.65                                                | 3 632 235                                          | 22.53                                                              |
| 23-24                                                              | 81 412                                     | 427                                        | 5.24                            | 43.61                                                                        | 81 199                                                                                                                                                                                                  | 190.16                                                | 3 550 606                                          | 22.93                                                              |
| 24-25                                                              | 80 985                                     | 421                                        | 5.20                            | 42.84                                                                        | 80 775                                                                                                                                                                                                  | 191.86                                                | 3 469 407                                          | 23.34                                                              |
| 25-26                                                              | 80 564                                     | 413                                        | 5.13                            | 42.06                                                                        | 80 358                                                                                                                                                                                                  | 194.57                                                | 3 388 632                                          | 23.78                                                              |
| 26-27                                                              | 80 151                                     | 409                                        | 5.10                            | 41.28                                                                        | 79 946                                                                                                                                                                                                  | 195.47                                                | 3 308 274                                          | 24.22                                                              |
| 27-28                                                              | 79 742                                     | 410                                        | 5.15                            | 40.48                                                                        | 79 537                                                                                                                                                                                                  | 193.99                                                | 3 228 328                                          | 24.70                                                              |
| 28-29                                                              | 79 332                                     | 417                                        | 5.25                            | 39.69                                                                        | 79 124                                                                                                                                                                                                  | 189.75                                                | 3 148 791                                          | 25.20                                                              |
| 29-30                                                              | 78 915                                     | 420                                        | 5.33                            | 38.90                                                                        | 78 705                                                                                                                                                                                                  | 187.39                                                | 3 069 667                                          | 25.71                                                              |
| 30-31                                                              | 78 495                                     | 423                                        | 5.39                            | 38.10                                                                        | 78 284                                                                                                                                                                                                  | 185.07                                                | 2 990 962                                          | 26.25                                                              |
| 31-32                                                              | 78 072                                     | 429                                        | 5.50                            | 37.31                                                                        | 77 857                                                                                                                                                                                                  | 181.48                                                | 2 912 678                                          | 26.80                                                              |
| 32-33                                                              | 77 643                                     | 441                                        | 5.67                            | 36.51                                                                        | 77 423                                                                                                                                                                                                  | 175.56                                                | 2 834 821                                          | 27.39                                                              |
| 33-34                                                              | 77 202                                     | 453                                        | 5.86                            | 35.72                                                                        | 76 976                                                                                                                                                                                                  | 169.92                                                | 2 757 398                                          | 28.00                                                              |
| 34-35                                                              | 76 749                                     | 467                                        | 6.08                            | 34.92                                                                        | 76 516                                                                                                                                                                                                  | 163.85                                                | 2 680 422                                          | 28.64                                                              |
| 35-36                                                              | 76 282                                     | 480                                        | 6.30                            | 34.14                                                                        | 76 042                                                                                                                                                                                                  | 158.42                                                | 2 603 906                                          | 29.29                                                              |
| 36-37                                                              | 75 802                                     | 492                                        | 6.49                            | 33.35                                                                        | 75 556                                                                                                                                                                                                  | 153.57                                                | 2 527 864                                          | 29.99                                                              |
| 37-38                                                              | 75 310                                     | 499                                        | 6.63                            | 32.56                                                                        | 75 060                                                                                                                                                                                                  | 150.42                                                | 2 452 308                                          | 30.71                                                              |
| 38-39                                                              | 74 811                                     | 506                                        | 6.75                            | 31.78                                                                        | 74 558                                                                                                                                                                                                  | 147.35                                                | 2 377 248                                          | 31.47                                                              |
| 39-40                                                              | 74 305                                     | 512                                        | 6.90                            | 30.99                                                                        | 74 049                                                                                                                                                                                                  | 144.63                                                | 2 302 690                                          | 32.27                                                              |
| 40-41                                                              | 73 793                                     | 521                                        | 7.06                            | 30.20                                                                        | 73 532                                                                                                                                                                                                  | 141.14                                                | 2 228 641                                          | 33.11                                                              |
| 41-42                                                              | 73 272                                     | 532                                        | 7.26                            | 29.41                                                                        | 73 006                                                                                                                                                                                                  | 137.23                                                | 2 155 109                                          | 34.00                                                              |
| 42-43                                                              | 72 740                                     | 548                                        | 7.53                            | 28.62                                                                        | 72 466                                                                                                                                                                                                  | 132.24                                                | 2 082 103                                          | 34.94                                                              |
| 43-44                                                              | 72 192                                     | 567                                        | 7.86                            | 27.84                                                                        | 71 908                                                                                                                                                                                                  | 126.82                                                | 2 009 637                                          | 35.92                                                              |
| 44-45                                                              | 71 625                                     | 590                                        | 8.23                            | 27.05                                                                        | 71 330                                                                                                                                                                                                  | 120.90                                                | 1 937 729                                          | 36.97                                                              |

## OF THE ORIGINAL REGISTRATION STATES: 1910.

## TABLE 32

REPORTED DEATHS IN 1909 (67,589), IN 1910 (71,258), AND IN 1911 (69,513).

Michigan, and the District of Columbia. The "rural part of the registration states" is that which is exclusive of municipalities of 8,000 or more inhabitants in 1900 for life tables is given on pages 25 to 29, and illustrative examples, showing how to use the tables, are given on pages 29 to 19.

| AGE<br>INTERVAL. | OF 100,000 MALES BORN<br>ALIVE:                     |                                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND. | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                           | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                                                |                                                            |                                                                               |
|------------------|-----------------------------------------------------|--------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------|
|                  |                                                     |                                                  |                                          |                                                                                               | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                                        | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS. | DEATH RATE<br>PER THOUSAND.                                                   |
|                  | Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval.         | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval.                                                                                                               | Including only<br>those in current<br>month or year<br>of age. | Population<br>per death in<br>age interval.                | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                               | $d_x$                                            | $1000q_x$                                | $e_x$                                                                                         | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                                      | $T_x$                                                      | $1000L_x/T_x$                                                                 |
| 1                | 2                                                   | 3                                                | 4                                        | 5                                                                                             | 6                                                                                                                                                                                                          | 7                                                              | 8                                                          | 9                                                                             |

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.

| Years.  |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
|---------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| 45-46   | 71 035 | 615   | 8.67         | 26.27     | 70 727 | 115.00    | 1 866 399 | 38.07        |
| 46-47   | 70 420 | 642   | 9.11         | 25.50     | 70 099 | 109.19    | 1 795 672 | 39.22        |
| 47-48   | 69 778 | 662   | 9.49         | 24.73     | 69 447 | 104.90    | 1 725 573 | 40.44        |
| 48-49   | 69 116 | 681   | 9.85         | 23.96     | 68 776 | 100.99    | 1 656 126 | 41.74        |
| 49-50   | 68 435 | 701   | 10.24        | 23.20     | 68 085 | 97.13     | 1 587 350 | 43.10        |
| 50-51   | 67 734 | 721   | 10.65        | 22.43     | 67 374 | 93.45     | 1 519 265 | 44.58        |
| 51-52   | 67 013 | 749   | 11.18        | 21.67     | 66 639 | 88.97     | 1 451 891 | 46.15        |
| 52-53   | 66 264 | 791   | 11.94        | 20.91     | 65 869 | 83.27     | 1 385 252 | 47.82        |
| 53-54   | 65 473 | 847   | 12.94        | 20.15     | 65 050 | 76.80     | 1 319 383 | 49.63        |
| 54-55   | 64 626 | 909   | 14.06        | 19.41     | 64 173 | 70.60     | 1 254 333 | 51.52        |
| 55-56   | 63 717 | 979   | 15.37        | 18.68     | 63 228 | 64.58     | 1 190 161 | 53.53        |
| 56-57   | 62 738 | 1 053 | 16.79        | 17.96     | 62 211 | 59.08     | 1 126 933 | 55.68        |
| 57-58   | 61 685 | 1 122 | 18.19        | 17.26     | 61 124 | 54.48     | 1 064 722 | 57.94        |
| 58-59   | 60 563 | 1 188 | 19.60        | 16.57     | 59 969 | 50.48     | 1 003 598 | 60.35        |
| 59-60   | 59 375 | 1 258 | 21.19        | 15.89     | 58 746 | 46.70     | 943 629   | 62.93        |
| 60-61   | 58 117 | 1 331 | 22.91        | 15.23     | 57 451 | 43.16     | 884 883   | 65.66        |
| 61-62   | 56 786 | 1 413 | 24.87        | 14.57     | 56 080 | 39.69     | 827 432   | 68.63        |
| 62-63   | 55 373 | 1 502 | 27.13        | 13.93     | 54 622 | 36.37     | 771 352   | 71.79        |
| 63-64   | 53 871 | 1 597 | 29.65        | 13.30     | 53 072 | 33.23     | 716 730   | 75.19        |
| 64-65   | 52 274 | 1 688 | 32.29        | 12.70     | 51 430 | 30.47     | 663 658   | 78.74        |
| 65-66   | 50 586 | 1 774 | 35.06        | 12.10     | 49 699 | 28.02     | 612 228   | 82.64        |
| 66-67   | 48 812 | 1 857 | 38.04        | 11.52     | 47 884 | 25.79     | 562 529   | 86.81        |
| 67-68   | 46 955 | 1 939 | 41.30        | 10.96     | 45 986 | 23.72     | 514 645   | 91.24        |
| 68-69   | 45 016 | 2 022 | 44.91        | 10.41     | 44 005 | 21.76     | 468 659   | 96.06        |
| 69-70   | 42 994 | 2 097 | 48.79        | 9.88      | 41 945 | 20.00     | 424 654   | 101.21       |
| 70-71   | 40 897 | 2 165 | 52.93        | 9.36      | 39 814 | 18.39     | 382 709   | 106.84       |
| 71-72   | 38 732 | 2 233 | 57.65        | 8.85      | 37 616 | 16.85     | 342 895   | 112.99       |
| 72-73   | 36 499 | 2 305 | 63.16        | 8.36      | 35 346 | 15.33     | 305 279   | 119.62       |
| 73-74   | 34 194 | 2 374 | 69.41        | 7.89      | 33 007 | 13.90     | 269 933   | 126.74       |
| 74-75   | 31 820 | 2 427 | 76.29        | 7.45      | 30 606 | 12.61     | 236 926   | 134.23       |
| 75-76   | 29 393 | 2 470 | 84.04        | 7.02      | 28 158 | 11.40     | 206 320   | 142.45       |
| 76-77   | 26 923 | 2 479 | 92.05        | 6.62      | 25 683 | 10.36     | 178 162   | 151.06       |
| 77-78   | 24 444 | 2 444 | 99.99        | 6.24      | 23 222 | 9.50      | 152 479   | 160.26       |
| 78-79   | 22 000 | 2 380 | 108.20       | 5.88      | 20 810 | 8.74      | 129 257   | 170.07       |
| 79-80   | 19 620 | 2 313 | 117.89       | 5.53      | 18 463 | 7.98      | 108 447   | 180.83       |
| 80-81   | 17 307 | 2 245 | 129.68       | 5.20      | 16 185 | 7.21      | 89 984    | 192.31       |
| 81-82   | 15 062 | 2 142 | 142.22       | 4.90      | 13 991 | 6.53      | 73 799    | 204.08       |
| 82-83   | 12 920 | 1 986 | 153.76       | 4.63      | 11 927 | 6.00      | 59 808    | 215.98       |
| 83-84   | 10 934 | 1 793 | 163.92       | 4.38      | 10 038 | 5.60      | 47 881    | 228.31       |
| 84-85   | 9 141  | 1 601 | 175.24       | 4.14      | 8 340  | 5.21      | 37 843    | 241.55       |
| 85-86   | 7 540  | 1 414 | 187.54       | 3.91      | 6 833  | 4.83      | 29 503    | 255.75       |
| 86-87   | 6 126  | 1 225 | 199.99       | 3.70      | 5 513  | 4.50      | 22 670    | 270.27       |
| 87-88   | 4 901  | 1 043 | 212.76       | 3.50      | 4 379  | 4.20      | 17 157    | 285.71       |
| 88-89   | 3 858  | 872   | 226.02       | 3.31      | 3 422  | 3.92      | 12 778    | 302.11       |
| 89-90   | 2 986  | 716   | 239.84       | 3.13      | 2 628  | 3.67      | 9 356     | 319.49       |
| 90-91   | 2 270  | 577   | 251.25       | 2.96      | 1 981  | 3.43      | 6 728     | 337.84       |
| 91-92   | 1 693  | 456   | 269.19       | 2.80      | 1 465  | 3.21      | 4 747     | 357.14       |
| 92-93   | 1 237  | 352   | 284.58       | 2.65      | 1 061  | 3.01      | 3 282     | 377.36       |
| 93-94   | 885    | 266   | 300.37       | 2.51      | 752    | 2.83      | 2 221     | 398.41       |
| 94-95   | 619    | 196   | 316.59       | 2.37      | 521    | 2.66      | 1 469     | 421.94       |
| 95-96   | 423    | 141   | 333.44       | 2.24      | 353    | 2.50      | 948       | 446.43       |
| 96-97   | 282    | 99    | 351.29       | 2.11      | 233    | 2.35      | 595       | 473.93       |
| 97-98   | 183    | 68    | 370.73       | 1.98      | 149    | 2.20      | 362       | 505.05       |
| 98-99   | 115    | 45    | 392.37       | 1.85      | 93     | 2.05      | 213       | 540.34       |
| 99-100  | 70     | 29    | 416.73       | 1.72      | 55     | 1.90      | 120       | 581.40       |
| 100-101 | 41     | 18    | 444.12       | 1.60      | 32     | 1.75      | 65        | 625.00       |
| 101-102 | 23     | 11    | 474.70       | 1.48      | 17     | 1.61      | 33        | 675.68       |
| 102-103 | 12     | 6     | 508.29       | 1.36      | 9      | 1.47      | 16        | 735.29       |
| 103-104 | 6      | 3     | 544.62       | 1.25      | 4      | 1.34      | 7         | 800.00       |
| 104-105 | 3      | 2     | 582.88       | 1.15      | 2      | 1.22      | 3         | 869.57       |
| 105-106 | 1      | 1     | 622.88       | 1.05      | 1      | 1.11      | 1         | 932.38       |

TABLE 33

## LIFE TABLE FOR WHITE FEMALES IN RURAL PART

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (4,484,513), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, the year 1900, and of 10,000 or more inhabitants in 1910 for the years 1910 and 1911. An explanation of each column of the

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            |         |       | Monthly rate. | In years. |       | Per month. |           | Annual rate. |
| 0-1                                                                | 100 000 | 3 222 | 32.22         | 55.41     | 8 132 | 30.24      | 5 541 213 | 18.05        |
| 1-2                                                                | 96 778  | 826   | 8.53          | 57.17     | 8 030 | 116.64     | 5 533 081 | 17.19        |
| 2-3                                                                | 95 952  | 749   | 7.81          | 57.58     | 7 965 | 127.56     | 5 525 051 | 17.37        |
| 3-4                                                                | 95 203  | 679   | 7.14          | 57.95     | 7 905 | 139.68     | 5 517 086 | 17.26        |
| 4-5                                                                | 94 524  | 614   | 6.50          | 58.28     | 7 851 | 153.48     | 5 509 181 | 17.16        |
| 5-6                                                                | 93 910  | 554   | 5.89          | 58.58     | 7 803 | 168.96     | 5 501 330 | 17.07        |
| 6-7                                                                | 93 356  | 498   | 5.34          | 58.84     | 7 759 | 186.96     | 5 493 527 | 17.00        |
| 7-8                                                                | 92 858  | 448   | 4.82          | 59.08     | 7 719 | 206.76     | 5 485 768 | 16.93        |
| 8-9                                                                | 92 410  | 403   | 4.36          | 59.28     | 7 684 | 228.84     | 5 478 049 | 16.87        |
| 9-10                                                               | 92 007  | 361   | 3.92          | 59.46     | 7 652 | 254.40     | 5 470 365 | 16.82        |
| 10-11                                                              | 91 646  | 324   | 3.54          | 59.61     | 7 624 | 282.36     | 5 462 713 | 16.78        |
| 11-12                                                              | 91 322  | 301   | 3.30          | 59.73     | 7 598 | 302.88     | 5 455 089 | 16.74        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |       |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 8 979 | 89.79        | 55.41     | 93 722 | 10.44     | 5 541 213 | 18.05        |
| 1-2                                                              | 91 021  | 1 988 | 21.84        | 59.85     | 89 848 | 45.20     | 5 447 491 | 16.71        |
| 2-3                                                              | 89 033  | 914   | 10.60        | 60.18     | 88 533 | 93.78     | 5 357 643 | 16.62        |
| 3-4                                                              | 88 089  | 596   | 6.77         | 59.82     | 87 779 | 147.28    | 5 269 110 | 16.72        |
| 4-5                                                              | 87 493  | 476   | 5.44         | 59.22     | 87 245 | 183.29    | 5 181 331 | 16.89        |
| 5-6                                                              | 87 017  | 380   | 4.37         | 58.54     | 86 827 | 228.49    | 5 094 086 | 17.08        |
| 6-7                                                              | 86 637  | 306   | 3.53         | 57.80     | 86 484 | 282.63    | 5 007 259 | 17.30        |
| 7-8                                                              | 86 331  | 251   | 2.90         | 57.00     | 86 206 | 343.45    | 4 920 775 | 17.54        |
| 8-9                                                              | 86 080  | 212   | 2.47         | 56.16     | 85 974 | 405.54    | 4 834 569 | 17.81        |
| 9-10                                                             | 85 868  | 191   | 2.22         | 55.30     | 85 772 | 449.07    | 4 748 595 | 18.08        |
| 10-11                                                            | 85 677  | 182   | 2.12         | 54.42     | 85 586 | 470.25    | 4 662 823 | 18.38        |
| 11-12                                                            | 85 495  | 185   | 2.17         | 53.54     | 85 403 | 461.64    | 4 577 237 | 18.68        |
| 12-13                                                            | 85 310  | 200   | 2.34         | 52.65     | 85 210 | 426.05    | 4 491 834 | 18.99        |
| 13-14                                                            | 85 110  | 222   | 2.61         | 51.78     | 84 999 | 382.88    | 4 406 624 | 19.31        |
| 14-15                                                            | 84 888  | 251   | 2.96         | 50.91     | 84 763 | 337.70    | 4 321 625 | 19.64        |
| 15-16                                                            | 84 637  | 287   | 3.40         | 50.06     | 84 493 | 294.40    | 4 236 862 | 19.98        |
| 16-17                                                            | 84 350  | 329   | 3.90         | 49.23     | 84 185 | 255.88    | 4 152 369 | 20.31        |
| 17-18                                                            | 84 021  | 367   | 4.37         | 48.42     | 83 837 | 228.44    | 4 068 184 | 20.65        |
| 18-19                                                            | 83 654  | 400   | 4.77         | 47.63     | 83 454 | 208.64    | 3 984 347 | 21.00        |
| 19-20                                                            | 83 254  | 426   | 5.12         | 46.86     | 83 011 | 194.93    | 3 900 893 | 21.34        |
| 20-21                                                            | 82 828  | 455   | 5.50         | 46.09     | 82 600 | 181.54    | 3 817 852 | 21.70        |
| 21-22                                                            | 82 373  | 486   | 5.89         | 45.35     | 82 130 | 168.99    | 3 735 252 | 22.05        |
| 22-23                                                            | 81 887  | 508   | 6.21         | 44.61     | 81 633 | 160.69    | 3 653 122 | 22.42        |
| 23-24                                                            | 81 379  | 520   | 6.38         | 43.89     | 81 119 | 156.00    | 3 571 489 | 22.78        |
| 24-25                                                            | 80 859  | 523   | 6.47         | 43.17     | 80 598 | 154.11    | 3 490 370 | 23.16        |
| 25-26                                                            | 80 336  | 526   | 6.55         | 42.44     | 80 073 | 152.23    | 3 409 772 | 23.56        |
| 26-27                                                            | 79 810  | 527   | 6.60         | 41.72     | 79 547 | 150.94    | 3 329 699 | 23.97        |
| 27-28                                                            | 79 283  | 527   | 6.65         | 40.99     | 79 020 | 149.94    | 3 250 152 | 24.40        |
| 28-29                                                            | 78 756  | 528   | 6.70         | 40.27     | 78 492 | 148.66    | 3 171 132 | 24.83        |
| 29-30                                                            | 78 228  | 529   | 6.76         | 39.53     | 77 964 | 147.38    | 3 092 640 | 25.30        |
| 30-31                                                            | 77 699  | 528   | 6.80         | 38.80     | 77 435 | 146.66    | 3 014 676 | 25.77        |
| 31-32                                                            | 77 171  | 527   | 6.83         | 38.06     | 76 908 | 145.94    | 2 937 241 | 26.27        |
| 32-33                                                            | 76 644  | 524   | 6.85         | 37.32     | 76 382 | 145.77    | 2 860 333 | 26.80        |
| 33-34                                                            | 76 120  | 522   | 6.86         | 36.57     | 75 859 | 145.32    | 2 783 951 | 27.34        |
| 34-35                                                            | 75 596  | 520   | 6.87         | 35.82     | 75 338 | 144.88    | 2 708 092 | 27.92        |
| 35-36                                                            | 75 078  | 517   | 6.89         | 35.07     | 74 820 | 144.72    | 2 632 754 | 28.51        |
| 36-37                                                            | 74 561  | 514   | 6.90         | 34.31     | 74 304 | 144.56    | 2 557 934 | 29.16        |
| 37-38                                                            | 74 047  | 515   | 6.95         | 33.54     | 73 790 | 143.28    | 2 483 630 | 29.82        |
| 38-39                                                            | 73 532  | 520   | 7.08         | 32.77     | 73 272 | 140.91    | 2 409 840 | 30.52        |
| 39-40                                                            | 73 012  | 531   | 7.27         | 32.00     | 72 746 | 137.00    | 2 336 568 | 31.25        |
| 40-41                                                            | 72 481  | 542   | 7.47         | 31.23     | 72 210 | 133.23    | 2 263 822 | 32.02        |
| 41-42                                                            | 71 939  | 554   | 7.70         | 30.46     | 71 662 | 129.35    | 2 191 612 | 32.83        |
| 42-43                                                            | 71 385  | 565   | 7.92         | 29.70     | 71 103 | 125.85    | 2 119 950 | 33.67        |
| 43-44                                                            | 70 820  | 572   | 8.07         | 28.93     | 70 534 | 123.31    | 2 048 847 | 34.57        |
| 44-45                                                            | 70 248  | 576   | 8.21         | 28.16     | 69 960 | 121.46    | 1 978 313 | 35.51        |



## OF THE ORIGINAL REGISTRATION STATES: 1901.

## TABLE 33

REPORTED DEATHS IN 1900 (66,636), IN 1901 (62,088), AND IN 1902 (57,138).

Michigan, and the District of Columbia. The "rural part of the registration states" is that which is exclusive of municipalities of 8,000 or more inhabitants in 1900 for life tables is given on pages 25 to 29, and illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 69 672 | 585   | 8.39         | 27.39     | 69 379 | 118.60    | 1 908 353 | 36.51        |
| 46-47                                                                      | 69 087 | 591   | 8.61         | 26.62     | 68 790 | 115.81    | 1 838 974 | 37.57        |
| 47-48                                                                      | 68 493 | 610   | 8.91         | 25.84     | 68 188 | 111.78    | 1 770 184 | 38.70        |
| 48-49                                                                      | 67 883 | 633   | 9.33         | 25.07     | 67 566 | 106.74    | 1 701 998 | 39.89        |
| 49-50                                                                      | 67 250 | 662   | 9.84         | 24.30     | 66 919 | 101.09    | 1 634 430 | 41.15        |
| 50-51                                                                      | 66 588 | 691   | 10.39        | 23.54     | 66 242 | 95.86     | 1 567 511 | 42.48        |
| 51-52                                                                      | 65 897 | 724   | 10.98        | 22.78     | 65 535 | 90.52     | 1 501 269 | 43.90        |
| 52-53                                                                      | 65 173 | 760   | 11.65        | 22.03     | 64 793 | 85.25     | 1 435 734 | 45.39        |
| 53-54                                                                      | 64 413 | 799   | 12.42        | 21.28     | 64 013 | 80.12     | 1 370 941 | 46.99        |
| 54-55                                                                      | 63 614 | 845   | 13.28        | 20.54     | 63 191 | 74.78     | 1 306 928 | 48.69        |
| 55-56                                                                      | 62 769 | 894   | 14.24        | 19.81     | 62 322 | 69.71     | 1 243 737 | 50.48        |
| 56-57                                                                      | 61 875 | 946   | 15.30        | 19.09     | 61 402 | 64.91     | 1 181 415 | 52.38        |
| 57-58                                                                      | 60 929 | 1 001 | 16.42        | 18.38     | 60 428 | 60.37     | 1 120 013 | 54.41        |
| 58-59                                                                      | 59 928 | 1 054 | 17.59        | 17.68     | 59 401 | 56.36     | 1 059 585 | 56.56        |
| 59-60                                                                      | 58 874 | 1 107 | 18.81        | 16.99     | 58 320 | 52.68     | 1 000 184 | 58.86        |
| 60-61                                                                      | 57 767 | 1 164 | 20.14        | 16.30     | 57 185 | 49.13     | 941 864   | 61.35        |
| 61-62                                                                      | 56 603 | 1 220 | 21.56        | 15.63     | 55 993 | 45.90     | 884 679   | 63.98        |
| 62-63                                                                      | 55 383 | 1 285 | 23.19        | 14.96     | 54 741 | 42.60     | 828 686   | 66.84        |
| 63-64                                                                      | 54 098 | 1 359 | 25.13        | 14.31     | 53 419 | 39.31     | 773 945   | 69.88        |
| 64-65                                                                      | 52 739 | 1 442 | 27.34        | 13.66     | 52 018 | 36.07     | 720 526   | 73.21        |
| 65-66                                                                      | 51 297 | 1 524 | 29.72        | 13.03     | 50 535 | 33.16     | 668 508   | 76.75        |
| 66-67                                                                      | 49 773 | 1 606 | 32.27        | 12.42     | 48 970 | 30.49     | 617 973   | 80.52        |
| 67-68                                                                      | 48 167 | 1 691 | 35.14        | 11.81     | 47 320 | 27.95     | 569 003   | 84.67        |
| 68-69                                                                      | 46 474 | 1 786 | 38.43        | 11.23     | 45 581 | 25.52     | 521 683   | 89.05        |
| 69-70                                                                      | 44 688 | 1 884 | 42.17        | 10.65     | 43 746 | 23.22     | 476 102   | 93.90        |
| 70-71                                                                      | 42 804 | 1 983 | 46.31        | 10.10     | 41 812 | 21.09     | 432 356   | 99.01        |
| 71-72                                                                      | 40 821 | 2 080 | 50.95        | 9.57      | 39 781 | 19.13     | 390 544   | 104.49       |
| 72-73                                                                      | 38 741 | 2 170 | 56.02        | 9.05      | 37 656 | 17.35     | 350 763   | 110.50       |
| 73-74                                                                      | 36 571 | 2 244 | 61.37        | 8.56      | 35 449 | 15.80     | 313 107   | 116.82       |
| 74-75                                                                      | 34 327 | 2 300 | 67.00        | 8.09      | 33 177 | 14.42     | 277 658   | 123.61       |
| 75-76                                                                      | 32 027 | 2 344 | 73.19        | 7.63      | 30 855 | 13.16     | 244 481   | 131.06       |
| 76-77                                                                      | 29 683 | 2 376 | 80.05        | 7.20      | 28 495 | 11.99     | 213 626   | 138.89       |
| 77-78                                                                      | 27 307 | 2 396 | 87.75        | 6.78      | 26 109 | 10.90     | 185 131   | 147.49       |
| 78-79                                                                      | 24 911 | 2 397 | 96.20        | 6.38      | 23 712 | 9.89      | 159 022   | 156.74       |
| 79-80                                                                      | 22 514 | 2 372 | 105.35       | 6.01      | 21 328 | 8.99      | 135 310   | 166.39       |
| 80-81                                                                      | 20 142 | 2 317 | 115.06       | 5.66      | 18 983 | 8.19      | 113 982   | 176.68       |
| 81-82                                                                      | 17 825 | 2 231 | 125.17       | 5.33      | 16 709 | 7.49      | 94 999    | 187.62       |
| 82-83                                                                      | 15 594 | 2 114 | 135.55       | 5.02      | 14 537 | 6.88      | 78 290    | 199.20       |
| 83-84                                                                      | 13 480 | 1 970 | 146.15       | 4.73      | 12 495 | 6.34      | 63 753    | 211.42       |
| 84-85                                                                      | 11 510 | 1 808 | 157.05       | 4.45      | 10 606 | 5.87      | 51 258    | 224.72       |
| 85-86                                                                      | 9 702  | 1 634 | 168.46       | 4.19      | 8 885  | 5.44      | 40 652    | 238.66       |
| 86-87                                                                      | 8 068  | 1 458 | 180.61       | 3.94      | 7 339  | 5.04      | 31 767    | 254.81       |
| 87-88                                                                      | 6 610  | 1 281 | 193.86       | 3.70      | 5 970  | 4.66      | 24 428    | 270.27       |
| 88-89                                                                      | 5 329  | 1 110 | 208.30       | 3.46      | 4 774  | 4.30      | 18 458    | 289.02       |
| 89-90                                                                      | 4 219  | 945   | 223.99       | 3.24      | 3 746  | 3.96      | 13 684    | 308.64       |
| 90-91                                                                      | 3 274  | 789   | 240.86       | 3.04      | 2 880  | 3.65      | 9 938     | 328.95       |
| 91-92                                                                      | 2 485  | 643   | 258.74       | 2.84      | 2 164  | 3.36      | 7 058     | 352.11       |
| 92-93                                                                      | 1 842  | 511   | 277.47       | 2.66      | 1 587  | 3.10      | 4 894     | 375.94       |
| 93-94                                                                      | 1 331  | 395   | 296.98       | 2.49      | 1 133  | 2.87      | 3 307     | 401.61       |
| 94-95                                                                      | 936    | 297   | 317.29       | 2.32      | 787    | 2.65      | 2 174     | 431.03       |
| 95-96                                                                      | 639    | 216   | 338.55       | 2.17      | 531    | 2.45      | 1 387     | 460.83       |
| 96-97                                                                      | 423    | 153   | 360.94       | 2.03      | 346    | 2.27      | 856       | 492.61       |
| 97-98                                                                      | 270    | 104   | 384.66       | 1.89      | 218    | 2.10      | 510       | 529.10       |
| 98-99                                                                      | 166    | 68    | 409.85       | 1.76      | 132    | 1.94      | 292       | 568.18       |
| 99-100                                                                     | 98     | 43    | 436.60       | 1.64      | 77     | 1.79      | 160       | 609.76       |
| 100-101                                                                    | 55     | 25    | 464.90       | 1.53      | 42     | 1.65      | 83        | 653.59       |
| 101-102                                                                    | 30     | 15    | 491.72       | 1.42      | 22     | 1.53      | 41        | 704.23       |
| 102-103                                                                    | 15     | 8     | 525.86       | 1.32      | 11     | 1.40      | 19        | 757.58       |
| 103-104                                                                    | 7      | 4     | 558.39       | 1.22      | 5      | 1.29      | 8         | 819.67       |
| 104-105                                                                    | 3      | 2     | 592.26       | 1.13      | 2      | 1.19      | 3         | 881.96       |
| 105-106                                                                    | 1      | 1     | 627.44       | 1.05      | 1      | 1.09      | 1         | 952.38       |

TABLE 34

## LIFE TABLE FOR WHITE FEMALES IN RURAL PART

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (4,459,915), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, the year 1909, and of 10,000 or more inhabitants in 1910 for the years 1910 and 1911. An explanation of each column of the

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9.                                                                                           |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            |         |       | Monthly rate. | In years. |       | Per month. |           | Annual rate. |
| 0-1                                                                | 100 000 | 3 586 | 35.86         | 57.35     | 8 109 | 27.12      | 5 734 930 | 17.44        |
| 1-2                                                                | 96 114  | 806   | 8.36          | 59.40     | 8 001 | 119.16     | 5 726 821 | 16.81        |
| 2-3                                                                | 95 608  | 678   | 7.09          | 59.82     | 7 939 | 140.52     | 5 718 820 | 16.72        |
| 3-4                                                                | 94 930  | 581   | 6.13          | 60.16     | 7 887 | 162.81     | 5 710 881 | 16.62        |
| 4-5                                                                | 94 319  | 503   | 5.33          | 60.45     | 7 841 | 187.08     | 5 702 994 | 16.54        |
| 5-6                                                                | 93 846  | 446   | 4.75          | 60.69     | 7 802 | 209.88     | 5 695 153 | 16.48        |
| 6-7                                                                | 93 400  | 394   | 4.22          | 60.89     | 7 767 | 236.52     | 5 687 351 | 16.42        |
| 7-8                                                                | 93 006  | 349   | 3.75          | 61.07     | 7 736 | 266.04     | 5 679 581 | 16.37        |
| 8-9                                                                | 92 637  | 316   | 3.41          | 61.21     | 7 708 | 292.68     | 5 671 818 | 16.34        |
| 9-10                                                               | 92 311  | 291   | 3.15          | 61.34     | 7 683 | 316.80     | 5 664 110 | 16.30        |
| 10-11                                                              | 92 050  | 275   | 2.99          | 61.45     | 7 659 | 334.20     | 5 656 457 | 16.27        |
| 11-12                                                              | 91 775  | 272   | 2.96          | 61.55     | 7 637 | 336.96     | 5 648 798 | 16.25        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |       |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 8 497 | 84.97        | 57.35     | 93 769 | 11.04     | 5 734 930 | 17.44        |
| 1-2                                                              | 91 503  | 1 622 | 17.73        | 61.65     | 90 546 | 55.82     | 5 641 161 | 16.22        |
| 2-3                                                              | 89 881  | 759   | 8.45         | 61.76     | 89 479 | 117.89    | 5 550 615 | 16.19        |
| 3-4                                                              | 89 122  | 466   | 5.22         | 61.28     | 88 880 | 190.73    | 5 461 136 | 16.32        |
| 4-5                                                              | 88 656  | 335   | 3.78         | 60.60     | 88 462 | 261.13    | 5 372 256 | 16.50        |
| 5-6                                                              | 88 321  | 290   | 3.29         | 59.82     | 88 176 | 304.06    | 5 283 774 | 16.72        |
| 6-7                                                              | 88 031  | 244   | 2.77         | 59.02     | 87 909 | 360.28    | 5 195 598 | 16.91        |
| 7-8                                                              | 87 787  | 208   | 2.37         | 58.18     | 87 683 | 421.55    | 5 107 689 | 17.19        |
| 8-9                                                              | 87 579  | 181   | 2.07         | 57.32     | 87 488 | 483.36    | 5 020 006 | 17.45        |
| 9-10                                                             | 87 398  | 165   | 1.88         | 56.44     | 87 316 | 529.19    | 4 932 518 | 17.72        |
| 10-11                                                            | 87 233  | 157   | 1.80         | 55.54     | 87 155 | 555.13    | 4 845 202 | 18.01        |
| 11-12                                                            | 87 076  | 158   | 1.82         | 54.64     | 86 997 | 550.61    | 4 758 047 | 18.30        |
| 12-13                                                            | 86 918  | 166   | 1.91         | 53.74     | 86 835 | 523.10    | 4 671 050 | 18.61        |
| 13-14                                                            | 86 752  | 181   | 2.08         | 52.84     | 86 662 | 478.80    | 4 584 215 | 18.93        |
| 14-15                                                            | 86 571  | 199   | 2.30         | 51.95     | 86 472 | 434.53    | 4 497 553 | 19.25        |
| 15-16                                                            | 86 372  | 222   | 2.57         | 51.07     | 86 261 | 388.56    | 4 411 081 | 19.58        |
| 16-17                                                            | 86 150  | 247   | 2.87         | 50.20     | 86 026 | 348.28    | 4 324 820 | 19.92        |
| 17-18                                                            | 85 903  | 276   | 3.21         | 49.34     | 85 765 | 310.74    | 4 238 794 | 20.27        |
| 18-19                                                            | 85 627  | 306   | 3.58         | 48.50     | 85 474 | 279.33    | 4 153 029 | 20.62        |
| 19-20                                                            | 85 321  | 339   | 3.97         | 47.67     | 85 162 | 251.19    | 4 067 555 | 20.98        |
| 20-21                                                            | 84 982  | 371   | 4.41         | 46.86     | 84 795 | 226.72    | 3 982 403 | 21.34        |
| 21-22                                                            | 84 608  | 403   | 4.76         | 46.07     | 84 406 | 209.44    | 3 897 608 | 21.71        |
| 22-23                                                            | 84 203  | 417   | 4.95         | 45.28     | 83 997 | 201.43    | 3 813 202 | 22.08        |
| 23-24                                                            | 83 788  | 422   | 5.04         | 44.51     | 83 577 | 198.05    | 3 729 205 | 22.47        |
| 24-25                                                            | 83 366  | 427   | 5.13         | 43.73     | 83 152 | 194.74    | 3 645 628 | 22.87        |
| 25-26                                                            | 82 939  | 433   | 5.22         | 42.95     | 82 722 | 191.04    | 3 562 476 | 23.28        |
| 26-27                                                            | 82 506  | 436   | 5.28         | 42.18     | 82 288 | 188.73    | 3 479 754 | 23.71        |
| 27-28                                                            | 82 070  | 438   | 5.34         | 41.40     | 81 851 | 186.87    | 3 397 466 | 24.15        |
| 28-29                                                            | 81 632  | 441   | 5.40         | 40.62     | 81 411 | 184.61    | 3 315 615 | 24.62        |
| 29-30                                                            | 81 191  | 442   | 5.44         | 39.83     | 80 970 | 183.19    | 3 234 204 | 25.11        |
| 30-31                                                            | 80 749  | 440   | 5.46         | 39.05     | 80 529 | 183.02    | 3 153 234 | 25.61        |
| 31-32                                                            | 80 309  | 443   | 5.51         | 38.26     | 80 087 | 180.78    | 3 072 705 | 26.14        |
| 32-33                                                            | 79 866  | 450   | 5.64         | 37.47     | 79 641 | 176.98    | 2 992 618 | 26.69        |
| 33-34                                                            | 79 416  | 461   | 5.80         | 36.68     | 79 186 | 171.77    | 2 912 977 | 27.26        |
| 34-35                                                            | 78 955  | 470   | 5.95         | 35.89     | 78 720 | 167.49    | 2 833 791 | 27.86        |
| 35-36                                                            | 78 485  | 479   | 6.11         | 35.10     | 78 246 | 163.35    | 2 755 071 | 28.49        |
| 36-37                                                            | 78 006  | 488   | 6.25         | 34.32     | 77 762 | 159.35    | 2 676 825 | 29.14        |
| 37-38                                                            | 77 518  | 492   | 6.35         | 33.53     | 77 272 | 157.06    | 2 599 063 | 29.82        |
| 38-39                                                            | 77 026  | 495   | 6.43         | 32.74     | 76 779 | 155.11    | 2 521 791 | 30.54        |
| 39-40                                                            | 76 531  | 500   | 6.53         | 31.95     | 76 281 | 152.56    | 2 445 012 | 31.30        |
| 40-41                                                            | 76 031  | 505   | 6.65         | 31.15     | 75 779 | 150.06    | 2 368 731 | 32.10        |
| 41-42                                                            | 75 526  | 513   | 6.80         | 30.36     | 75 269 | 146.72    | 2 292 952 | 32.94        |
| 42-43                                                            | 75 013  | 525   | 6.99         | 29.56     | 74 750 | 142.38    | 2 217 683 | 33.83        |
| 43-44                                                            | 74 488  | 539   | 7.23         | 28.77     | 74 219 | 137.70    | 2 142 933 | 34.76        |
| 44-45                                                            | 73 949  | 555   | 7.50         | 27.97     | 73 672 | 132.74    | 2 068 714 | 35.75        |

## OF THE ORIGINAL REGISTRATION STATES: 1910.

## TABLE 34

REPORTED DEATHS IN 1909 (59,139), IN 1910 (62,476), AND IN 1911 (61,332).

Michigan, and the District of Columbia. The "rural part of the registration states" is that which is exclusive of municipalities of 8,000 or more inhabitants in 1900 for life tables is given on pages 25 to 29, and illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE INTERVAL. | OF 100,000 FEMALES BORN ALIVE:             |                                            | RATE OF MORTALITY PER THOUSAND. | COMPLETE EXPECTATION OF LIFE.                                                | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                                       |                                                    |                                                                    |
|---------------|--------------------------------------------|--------------------------------------------|---------------------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------|
|               |                                            |                                            |                                 |                                                                              | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS. | DEATH RATE PER THOUSAND.                                           |
|               | Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval.   | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval.                                                                                                                            | Including only those in current month or year of age. | Population per death in age interval.              | Sum of numbers in column 6 in current and all older age intervals. |
| $x$ to $x+1$  | $l_x$                                      | $d_x$                                      | $1000q_x$                       | $e_x$                                                                        | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                                             | $T_x$                                              | $1000L_x/T_x$                                                      |
| 1             | 2                                          | 3                                          | 4                               | 5                                                                            | 6                                                                                                                                                                                                           | 7                                                     | 8                                                  | 9                                                                  |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 73 394 | 573   | 7.82         | 27.18     | 73 108 | 127.59    | 1 995 042 | 36.79        |
| 46-47                                                                      | 72 821 | 595   | 8.17         | 26.39     | 72 523 | 121.89    | 1 921 934 | 37.89        |
| 47-48                                                                      | 72 226 | 619   | 8.57         | 25.61     | 71 916 | 116.18    | 1 849 411 | 39.05        |
| 48-49                                                                      | 71 607 | 643   | 8.98         | 24.82     | 71 285 | 110.86    | 1 777 495 | 40.29        |
| 49-50                                                                      | 70 964 | 670   | 9.43         | 24.04     | 70 629 | 105.42    | 1 706 210 | 41.60        |
| 50-51                                                                      | 70 294 | 696   | 9.91         | 23.27     | 69 946 | 100.50    | 1 635 581 | 42.97        |
| 51-52                                                                      | 69 598 | 728   | 10.46        | 22.50     | 69 241 | 95.10     | 1 565 635 | 44.44        |
| 52-53                                                                      | 68 870 | 768   | 11.15        | 21.73     | 68 496 | 89.17     | 1 496 401 | 46.02        |
| 53-54                                                                      | 68 102 | 817   | 11.99        | 20.97     | 67 694 | 82.86     | 1 427 915 | 47.69        |
| 54-55                                                                      | 67 285 | 871   | 12.95        | 20.22     | 66 850 | 76.75     | 1 360 221 | 49.46        |
| 55-56                                                                      | 66 414 | 935   | 14.08        | 19.47     | 65 947 | 70.53     | 1 293 371 | 51.36        |
| 56-57                                                                      | 65 479 | 999   | 15.26        | 18.75     | 64 989 | 65.05     | 1 227 424 | 53.33        |
| 57-58                                                                      | 64 480 | 1 056 | 16.38        | 18.03     | 63 952 | 60.56     | 1 162 444 | 55.46        |
| 58-59                                                                      | 63 424 | 1 108 | 17.48        | 17.32     | 62 870 | 56.74     | 1 098 492 | 57.74        |
| 59-60                                                                      | 62 316 | 1 167 | 18.72        | 16.62     | 61 732 | 52.90     | 1 035 622 | 60.17        |
| 60-61                                                                      | 61 149 | 1 227 | 20.06        | 15.93     | 60 536 | 49.34     | 973 890   | 62.77        |
| 61-62                                                                      | 59 922 | 1 300 | 21.69        | 15.24     | 59 272 | 45.59     | 913 354   | 65.62        |
| 62-63                                                                      | 58 622 | 1 390 | 23.72        | 14.57     | 57 927 | 41.67     | 854 082   | 68.63        |
| 63-64                                                                      | 57 232 | 1 490 | 26.04        | 13.91     | 56 487 | 37.91     | 796 155   | 71.89        |
| 64-65                                                                      | 55 742 | 1 586 | 28.44        | 13.27     | 54 949 | 34.65     | 739 668   | 75.36        |
| 65-66                                                                      | 54 156 | 1 673 | 30.90        | 12.64     | 53 319 | 31.87     | 684 719   | 79.11        |
| 66-67                                                                      | 52 483 | 1 768 | 33.68        | 12.03     | 51 599 | 29.18     | 631 400   | 83.13        |
| 67-68                                                                      | 50 715 | 1 875 | 36.98        | 11.43     | 49 778 | 26.55     | 579 801   | 87.49        |
| 68-69                                                                      | 48 810 | 1 995 | 40.86        | 10.85     | 47 812 | 23.98     | 530 023   | 92.17        |
| 69-70                                                                      | 46 845 | 2 114 | 45.12        | 10.29     | 45 788 | 21.66     | 482 181   | 97.18        |
| 70-71                                                                      | 44 731 | 2 233 | 49.92        | 9.76      | 43 614 | 19.53     | 436 393   | 102.46       |
| 71-72                                                                      | 42 498 | 2 339 | 55.03        | 9.24      | 41 329 | 17.67     | 392 779   | 108.23       |
| 72-73                                                                      | 40 159 | 2 414 | 60.11        | 8.75      | 38 952 | 16.14     | 351 450   | 114.29       |
| 73-74                                                                      | 37 715 | 2 459 | 65.17        | 8.28      | 36 515 | 14.85     | 312 498   | 120.77       |
| 74-75                                                                      | 35 286 | 2 495 | 70.70        | 7.82      | 34 038 | 13.64     | 275 983   | 127.88       |
| 75-76                                                                      | 32 791 | 2 513 | 76.64        | 7.38      | 31 534 | 12.55     | 241 945   | 135.50       |
| 76-77                                                                      | 30 278 | 2 517 | 83.11        | 6.95      | 29 020 | 11.53     | 210 411   | 143.88       |
| 77-78                                                                      | 27 761 | 2 513 | 90.55        | 6.53      | 26 505 | 10.55     | 181 391   | 153.14       |
| 78-79                                                                      | 25 248 | 2 507 | 99.29        | 6.13      | 23 994 | 9.57      | 154 886   | 163.13       |
| 79-80                                                                      | 22 711 | 2 490 | 109.49       | 5.76      | 21 496 | 8.63      | 130 892   | 173.61       |
| 80-81                                                                      | 20 251 | 2 472 | 122.06       | 5.40      | 19 015 | 7.69      | 109 396   | 185.19       |
| 81-82                                                                      | 17 779 | 2 407 | 135.42       | 5.08      | 16 575 | 6.88      | 90 381    | 196.85       |
| 82-83                                                                      | 15 372 | 2 260 | 146.99       | 4.80      | 14 242 | 6.30      | 73 806    | 208.33       |
| 83-84                                                                      | 13 112 | 2 019 | 156.28       | 4.54      | 12 087 | 5.90      | 59 564    | 220.26       |
| 84-85                                                                      | 11 063 | 1 835 | 165.90       | 4.29      | 10 145 | 5.53      | 47 477    | 233.10       |
| 85-86                                                                      | 9 228  | 1 635 | 177.11       | 4.05      | 8 410  | 5.15      | 37 332    | 246.91       |
| 86-87                                                                      | 7 593  | 1 435 | 188.96       | 3.81      | 6 876  | 4.79      | 28 922    | 262.47       |
| 87-88                                                                      | 6 158  | 1 243 | 201.85       | 3.58      | 5 537  | 4.45      | 22 046    | 279.33       |
| 88-89                                                                      | 4 915  | 1 062 | 216.08       | 3.36      | 4 384  | 4.13      | 16 509    | 297.62       |
| 89-90                                                                      | 3 853  | 893   | 231.84       | 3.15      | 3 407  | 3.81      | 12 125    | 317.46       |
| 90-91                                                                      | 2 960  | 737   | 249.07       | 2.94      | 2 591  | 3.51      | 8 718     | 340.14       |
| 91-92                                                                      | 2 223  | 595   | 267.52       | 2.76      | 1 925  | 3.24      | 6 127     | 362.32       |
| 92-93                                                                      | 1 628  | 467   | 286.86       | 2.58      | 1 395  | 2.99      | 4 202     | 387.60       |
| 93-94                                                                      | 1 161  | 356   | 306.84       | 2.42      | 983    | 2.76      | 2 807     | 413.22       |
| 94-95                                                                      | 805    | 264   | 327.31       | 2.26      | 673    | 2.56      | 1 824     | 442.48       |
| 95-96                                                                      | 541    | 188   | 348.29       | 2.12      | 447    | 2.37      | 1 151     | 471.70       |
| 96-97                                                                      | 353    | 131   | 369.83       | 1.99      | 288    | 2.20      | 704       | 502.51       |
| 97-98                                                                      | 222    | 87    | 392.27       | 1.86      | 179    | 2.05      | 416       | 537.63       |
| 98-99                                                                      | 135    | 56    | 415.98       | 1.74      | 107    | 1.90      | 237       | 574.71       |
| 99-100                                                                     | 79     | 35    | 441.21       | 1.63      | 62     | 1.77      | 130       | 613.50       |
| 100-101                                                                    | 44     | 21    | 468.05       | 1.52      | 34     | 1.64      | 69        | 657.89       |
| 101-102                                                                    | 23     | 11    | 496.88       | 1.41      | 18     | 1.51      | 34        | 709.22       |
| 102-103                                                                    | 12     | 6     | 527.06       | 1.31      | 9      | 1.40      | 16        | 763.36       |
| 103-104                                                                    | 6      | 4     | 558.60       | 1.22      | 4      | 1.29      | 7         | 819.67       |
| 104-105                                                                    | 2      | 1     | 591.49       | 1.13      | 2      | 1.19      | 3         | 884.96       |
| 105-106                                                                    | 1      | 1     | 625.71       | 1.05      | 1      | 1.10      | 1         | 952.38       |

TABLE 35

## LIFE TABLE FOR NEGRO MALES IN

BASED ON THE ESTIMATED MEAN POPULATION FOR THE 10-YEAR PERIOD, 1901 TO 1910 (40,725), AND ON THE 1907 (1,375), IN 1908 (1,285), IN

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE INTERVAL.                              | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                   | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                       | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            | 100 000 |       | Monthly rate. | In years. |       | Per month. |           | Annual rate. |
| 0-1                                                                | 100 000 | 9 376 | 93.76         | 28.31     | 7 747 | 9.96       | 2 830 642 | 35.32        |
| 1-2                                                                | 90 624  | 3 075 | 33.94         | 31.15     | 7 424 | 28.92      | 2 822 895 | 32.10        |
| 2-3                                                                | 87 549  | 2 696 | 30.79         | 32.16     | 7 183 | 31.92      | 2 815 471 | 31.09        |
| 3-4                                                                | 84 853  | 2 410 | 28.11         | 33.10     | 6 971 | 34.68      | 2 808 288 | 30.21        |
| 4-5                                                                | 82 443  | 2 113 | 25.99         | 33.98     | 6 781 | 37.92      | 2 801 317 | 29.13        |
| 5-6                                                                | 80 300  | 1 893 | 23.57         | 34.80     | 6 613 | 41.88      | 2 794 536 | 28.74        |
| 6-7                                                                | 78 407  | 1 651 | 21.06         | 35.56     | 6 465 | 47.01      | 2 787 923 | 28.12        |
| 7-8                                                                | 76 756  | 1 427 | 18.59         | 36.24     | 6 337 | 53.28      | 2 781 458 | 27.59        |
| 8-9                                                                | 75 329  | 1 238 | 16.43         | 36.84     | 6 226 | 60.36      | 2 775 121 | 27.14        |
| 9-10                                                               | 74 091  | 1 056 | 14.26         | 37.37     | 6 130 | 69.60      | 2 768 895 | 26.76        |
| 10-11                                                              | 73 035  | 919   | 12.58         | 37.83     | 6 048 | 78.96      | 2 762 765 | 26.43        |
| 11-12                                                              | 72 116  | 850   | 11.79         | 38.23     | 5 974 | 84.36      | 2 756 717 | 26.16        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |       |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Year.                                                            | 100 000 |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 9 376 | 93.76        | 28.31     | 79 899 | 2.78      | 2 830 642 | 35.32        |
| 1-2                                                              | 90 624  | 3 075 | 33.94        | 31.15     | 68 073 | 12.58     | 2 750 743 | 25.91        |
| 2-3                                                              | 87 549  | 2 696 | 30.79        | 32.16     | 64 669 | 28.92     | 2 682 670 | 24.55        |
| 3-4                                                              | 84 853  | 2 410 | 28.11        | 33.10     | 62 975 | 30.91     | 2 618 001 | 24.30        |
| 4-5                                                              | 82 443  | 2 113 | 25.99        | 33.98     | 61 938 | 37.92     | 2 555 026 | 24.11        |
| 5-6                                                              | 80 300  | 1 893 | 23.57        | 34.80     | 61 214 | 47.01     | 2 493 088 | 24.68        |
| 6-7                                                              | 78 407  | 1 651 | 21.06        | 35.56     | 60 636 | 115.06    | 2 431 674 | 25.04        |
| 7-8                                                              | 76 756  | 1 427 | 18.59        | 36.24     | 60 149 | 134.26    | 2 371 228 | 25.46        |
| 8-9                                                              | 75 329  | 1 238 | 16.43        | 36.84     | 59 731 | 154.34    | 2 311 069 | 25.93        |
| 9-10                                                             | 74 091  | 1 056 | 14.26        | 37.37     | 59 364 | 170.39    | 2 251 358 | 26.45        |
| 10-11                                                            | 73 035  | 919   | 12.58        | 37.83     | 59 026 | 180.51    | 2 191 994 | 27.01        |
| 11-12                                                            | 72 116  | 850   | 11.79        | 38.23     | 58 700 | 180.08    | 2 132 968 | 27.58        |
| 12-13                                                            | 71 235  | 791   | 11.11        | 38.58     | 58 387 | 171.16    | 2 074 267 | 28.15        |
| 13-14                                                            | 70 394  | 732   | 10.41        | 38.88     | 58 080 | 155.94    | 2 015 981 | 28.72        |
| 14-15                                                            | 69 593  | 673   | 9.70         | 39.14     | 57 781 | 139.17    | 1 957 981 | 29.33        |
| 15-16                                                            | 68 832  | 614   | 9.00         | 39.37     | 57 489 | 123.76    | 1 900 274 | 30.01        |
| 16-17                                                            | 68 111  | 555   | 8.29         | 39.57     | 57 204 | 108.18    | 1 842 855 | 30.72        |
| 17-18                                                            | 67 430  | 496   | 7.50         | 39.74     | 56 926 | 93.38     | 1 785 722 | 31.48        |
| 18-19                                                            | 66 789  | 437   | 6.70         | 39.89     | 56 654 | 80.20     | 1 728 875 | 32.28        |
| 19-20                                                            | 66 188  | 378   | 5.90         | 39.99     | 56 387 | 74.02     | 1 672 322 | 33.12        |
| 20-21                                                            | 65 627  | 319   | 5.10         | 40.06     | 56 124 | 67.94     | 1 616 061 | 34.00        |
| 21-22                                                            | 65 106  | 260   | 4.30         | 40.11     | 55 866 | 62.42     | 1 560 090 | 34.91        |
| 22-23                                                            | 64 625  | 201   | 3.50         | 40.14     | 55 613 | 60.72     | 1 504 416 | 35.84        |
| 23-24                                                            | 64 184  | 142   | 2.70         | 40.16     | 55 364 | 58.56     | 1 449 036 | 36.80        |
| 24-25                                                            | 63 783  | 83    | 1.90         | 40.17     | 55 119 | 56.78     | 1 393 950 | 37.78        |
| 25-26                                                            | 63 422  | 24    | 0.70         | 40.18     | 54 878 | 55.09     | 1 339 157 | 38.79        |
| 26-27                                                            | 63 100  | 15    | 0.40         | 40.19     | 54 641 | 53.79     | 1 284 656 | 39.82        |
| 27-28                                                            | 62 817  | 6     | 0.20         | 40.20     | 54 408 | 52.91     | 1 230 455 | 40.87        |
| 28-29                                                            | 62 572  | 1     | 0.10         | 40.21     | 54 179 | 52.14     | 1 176 554 | 41.94        |
| 29-30                                                            | 62 361  | 0     | 0.00         | 40.22     | 53 954 | 51.37     | 1 122 951 | 43.03        |
| 30-31                                                            | 62 184  | 0     | 0.00         | 40.23     | 53 733 |           | 1 069 646 | 44.15        |
| 31-32                                                            | 62 041  | 0     | 0.00         | 40.24     | 53 516 |           | 1 016 630 | 45.29        |
| 32-33                                                            | 61 930  | 0     | 0.00         | 40.25     | 53 303 |           | 963 903   | 46.45        |
| 33-34                                                            | 61 851  | 0     | 0.00         | 40.26     | 53 094 |           | 911 464   | 47.63        |
| 34-35                                                            | 61 802  | 0     | 0.00         | 40.27     | 52 889 |           | 859 313   | 48.83        |
| 35-36                                                            | 61 783  | 0     | 0.00         | 40.28     | 52 688 |           | 807 450   | 50.05        |
| 36-37                                                            | 61 794  | 0     | 0.00         | 40.29     | 52 491 |           | 755 875   | 51.29        |
| 37-38                                                            | 61 835  | 0     | 0.00         | 40.30     | 52 298 |           | 704 588   | 52.55        |
| 38-39                                                            | 61 906  | 0     | 0.00         | 40.31     | 52 109 |           | 653 589   | 53.83        |
| 39-40                                                            | 61 997  | 0     | 0.00         | 40.32     | 51 924 |           | 602 878   | 55.13        |
| 40-41                                                            | 62 108  | 0     | 0.00         | 40.33     | 51 743 |           | 552 455   | 56.45        |
| 41-42                                                            | 62 239  | 0     | 0.00         | 40.34     | 51 566 |           | 502 320   | 57.79        |
| 42-43                                                            | 62 390  | 0     | 0.00         | 40.35     | 51 393 |           | 452 473   | 59.15        |
| 43-44                                                            | 62 561  | 0     | 0.00         | 40.36     | 51 224 |           | 402 914   | 60.53        |
| 44-45                                                            | 62 752  | 0     | 0.00         | 40.37     | 51 059 |           | 353 643   | 61.93        |
| 45-46                                                            | 62 963  | 0     | 0.00         | 40.38     | 50 898 |           | 304 660   | 63.35        |
| 46-47                                                            | 63 194  | 0     | 0.00         | 40.39     | 50 741 |           | 255 964   | 64.79        |
| 47-48                                                            | 63 445  | 0     | 0.00         | 40.40     | 50 588 |           | 207 555   | 66.25        |
| 48-49                                                            | 63 716  | 0     | 0.00         | 40.41     | 50 439 |           | 159 432   | 67.73        |
| 49-50                                                            | 64 007  | 0     | 0.00         | 40.42     | 50 294 |           | 111 595   | 69.23        |
| 50-51                                                            | 64 318  | 0     | 0.00         | 40.43     | 50 153 |           | 64 044    | 70.75        |
| 51-52                                                            | 64 649  | 0     | 0.00         | 40.44     | 50 016 |           | 17 175    | 72.29        |
| 52-53                                                            | 64 990  | 0     | 0.00         | 40.45     | 49 883 |           | 0         | 73.85        |
| 53-54                                                            | 65 341  | 0     | 0.00         | 40.46     | 49 754 |           | 0         | 75.43        |
| 54-55                                                            | 65 702  | 0     | 0.00         | 40.47     | 49 629 |           | 0         | 77.03        |
| 55-56                                                            | 66 073  | 0     | 0.00         | 40.48     | 49 508 |           | 0         | 78.65        |
| 56-57                                                            | 66 454  | 0     | 0.00         | 40.49     | 49 391 |           | 0         | 80.29        |
| 57-58                                                            | 66 845  | 0     | 0.00         | 40.50     | 49 278 |           | 0         | 81.95        |
| 58-59                                                            | 67 246  | 0     | 0.00         | 40.51     | 49 169 |           | 0         | 83.63        |
| 59-60                                                            | 67 657  | 0     | 0.00         | 40.52     | 49 064 |           | 0         | 85.33        |
| 60-61                                                            | 68 078  | 0     | 0.00         | 40.53     | 48 963 |           | 0         | 87.05        |
| 61-62                                                            | 68 509  | 0     | 0.00         | 40.54     | 48 866 |           | 0         | 88.79        |
| 62-63                                                            | 68 950  | 0     | 0.00         | 40.55     | 48 773 |           | 0         | 90.55        |
| 63-64                                                            | 69 401  | 0     | 0.00         | 40.56     | 48 684 |           | 0         | 92.33        |
| 64-65                                                            | 69 862  | 0     | 0.00         | 40.57     | 48 599 |           | 0         | 94.13        |
| 65-66                                                            | 70 333  | 0     | 0.00         | 40.58     | 48 518 |           | 0         | 95.95        |
| 66-67                                                            | 70 814  | 0     | 0.00         | 40.59     | 48 441 |           | 0         | 97.79        |
| 67-68                                                            | 71 305  | 0     | 0.00         | 40.60     | 48 368 |           | 0         | 99.65        |
| 68-69                                                            | 71 806  | 0     | 0.00         | 40.61     | 48 299 |           | 0         | 101.53       |
| 69-70                                                            | 72 317  | 0     | 0.00         | 40.62     | 48 234 |           | 0         | 103.43       |
| 70-71                                                            | 72 838  | 0     | 0.00         | 40.63     | 48 173 |           | 0         | 105.35       |
| 71-72                                                            | 73 369  | 0     | 0.00         | 40.64     | 48 116 |           | 0         | 107.29       |
| 72-73                                                            | 73 910  | 0     | 0.00         | 40.65     | 48 063 |           | 0         | 109.25       |
| 73-74                                                            | 74 461  | 0     | 0.00         | 40.66     | 48 014 |           | 0         | 111.23       |
| 74-75                                                            | 75 022  | 0     | 0.00         | 40.67     | 47 969 |           | 0         | 113.23       |
| 75-76                                                            | 75 593  | 0     | 0.00         | 40.68     | 47 928 |           | 0         | 115.25       |
| 76-77                                                            | 76 174  | 0     | 0.00         | 40.69     | 47 891 |           | 0         | 117.29       |
| 77-78                                                            | 76 765  | 0     | 0.00         | 40.70     | 47 858 |           | 0         | 119.35       |
| 78-79                                                            | 77 366  | 0     | 0.00         | 40.71     | 47 829 |           | 0         | 121.43       |
| 79-80                                                            | 77 977  | 0     | 0.00         | 40.72     | 47 804 |           | 0         | 123.53       |
| 80-81                                                            | 78 598  | 0     | 0.00         | 40.73     | 47 783 |           | 0         | 125.65       |
| 81-82                                                            | 79 229  | 0     | 0.00         | 40.74     | 47 766 |           | 0         | 127.79       |
| 82-83                                                            | 79 870  | 0     | 0.00         | 40.75     | 47 753 |           | 0         | 129.95       |
| 83-84                                                            | 80 521  | 0     | 0.00         | 40.76     | 47 744 |           | 0         | 132.13       |
| 84-85                                                            | 81 182  | 0     | 0.00         | 40.77     | 47 739 |           | 0         | 134.33       |
| 85-86                                                            | 81 853  | 0     | 0.00         | 40.78     | 47 738 |           | 0         | 136.55       |
| 86-87                                                            | 82 534  | 0     | 0.00         | 40.79     | 47 741 |           | 0         | 138.79       |
| 87-88                                                            | 83 225  | 0     | 0.00         | 40.80     | 47 748 |           | 0         | 141.05       |
| 88-89                                                            | 83 926  | 0     | 0.00         | 40.81     | 47 759 |           | 0         | 143.33       |
| 89-90                                                            | 84 637  | 0     | 0.00         | 40.82     | 47 774 |           | 0         | 145.63       |
| 90-91                                                            | 85 358  | 0     | 0.00         | 40.83     | 47 793 |           | 0         | 147.95       |
| 91-92                                                            | 86 089  | 0     | 0.00         | 40.84     | 47 816 |           | 0         | 150.29       |
| 92-93                                                            | 86 830  | 0     | 0.00         | 40.85     | 47 843 |           | 0         | 152.65       |
| 93-94                                                            | 87 581  | 0     | 0.00         | 40.86     | 47 874 |           | 0         | 155.03       |
| 94-95                                                            | 88 342  | 0     | 0.00         | 40.87     | 47 909 |           | 0         | 157.43       |
| 95-96                                                            | 89 113  | 0     | 0.00         | 40.88     | 47 948 |           | 0         | 159.85       |
| 96-97                                                            | 89 894  | 0     | 0.00         | 40.89     | 47 991 |           | 0         | 162.29       |
| 97-98                                                            | 90 685  | 0     | 0.00         | 40.90     | 48 038 |           | 0         | 164.75       |
| 98-99                                                            | 91 486  | 0     | 0.00         | 40.91     | 48 089 |           | 0         | 167.23       |
| 99-100                                                           | 92 297  | 0     | 0.00         | 40.92     | 48 144 |           | 0         | 169.73       |

## THE DISTRICT OF COLUMBIA: 1901-1910.

## TABLE 35

REPORTED DEATHS IN 1901 (1,321), IN 1902 (1,299), IN 1903 (1,266), IN 1904 (1,326), IN 1905 (1,419), IN 1906 (1,439), IN 1909 (1,325), AND IN 1910 (1,429).

Illustrative examples, showing how to use the tables, are given on pages 29 to 40.

| AGE<br>INTERVAL.                                    | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000/T_x$                                                                                                      |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—(continued). |        |       |              |           |        |           |         |              |
|------------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|---------|--------------|
| Years.                                                                       |        |       | Annual rate. | In years. |        | Per year. |         | Annual rate. |
| 45-46                                                                        | 32 287 | 945   | 29.27        | 16.53     | 31 815 | 33.67     | 534 197 | 60.42        |
| 46-47                                                                        | 31 312 | 970   | 30.96        | 16.03     | 30 857 | 31.81     | 502 382 | 62.38        |
| 47-48                                                                        | 30 372 | 990   | 32.60        | 15.52     | 29 877 | 30.18     | 471 525 | 64.43        |
| 48-49                                                                        | 29 382 | 999   | 33.99        | 15.03     | 28 882 | 28.91     | 441 648 | 66.53        |
| 49-50                                                                        | 28 383 | 1 003 | 35.35        | 14.54     | 27 881 | 27.80     | 412 766 | 68.78        |
| 50-51                                                                        | 27 380 | 1 003 | 36.61        | 14.06     | 26 878 | 26.80     | 384 885 | 71.12        |
| 51-52                                                                        | 26 377 | 1 001 | 37.96        | 13.57     | 25 877 | 25.85     | 358 007 | 73.69        |
| 52-53                                                                        | 25 376 | 1 009 | 39.77        | 13.09     | 24 871 | 24.65     | 332 130 | 76.39        |
| 53-54                                                                        | 24 367 | 1 030 | 42.27        | 12.61     | 23 852 | 23.16     | 307 259 | 79.30        |
| 54-55                                                                        | 23 337 | 1 055 | 45.22        | 12.14     | 22 809 | 21.62     | 283 407 | 82.37        |
| 55-56                                                                        | 22 282 | 1 091 | 48.94        | 11.70     | 21 736 | 19.92     | 260 598 | 85.47        |
| 56-57                                                                        | 21 191 | 1 130 | 53.36        | 11.27     | 20 626 | 18.25     | 238 862 | 88.73        |
| 57-58                                                                        | 20 061 | 1 154 | 57.19        | 10.88     | 19 484 | 16.88     | 218 236 | 91.91        |
| 58-59                                                                        | 18 907 | 1 149 | 60.80        | 10.51     | 18 332 | 15.95     | 198 732 | 95.15        |
| 59-60                                                                        | 17 758 | 1 111 | 61.21        | 10.16     | 17 187 | 15.06     | 180 420 | 98.43        |
| 60-61                                                                        | 16 617 | 1 120 | 67.43        | 9.82      | 16 057 | 14.34     | 163 233 | 101.83       |
| 61-62                                                                        | 15 497 | 1 095 | 70.61        | 9.50      | 14 949 | 13.65     | 147 176 | 105.26       |
| 62-63                                                                        | 14 402 | 1 072 | 71.43        | 9.18      | 13 866 | 12.93     | 132 227 | 108.93       |
| 63-64                                                                        | 13 330 | 1 053 | 79.02        | 8.88      | 12 803 | 12.16     | 118 361 | 112.61       |
| 64-65                                                                        | 12 277 | 1 031 | 83.94        | 8.60      | 11 762 | 11.41     | 105 558 | 116.28       |
| 65-66                                                                        | 11 246 | 993   | 88.29        | 8.34      | 10 750 | 10.83     | 93 796  | 119.90       |
| 66-67                                                                        | 10 253 | 938   | 91.50        | 8.10      | 9 784  | 10.43     | 83 046  | 123.16       |
| 67-68                                                                        | 9 315  | 876   | 94.11        | 7.86      | 8 877  | 10.13     | 73 262  | 127.23       |
| 68-69                                                                        | 8 439  | 813   | 96.34        | 7.63      | 8 032  | 9.88      | 64 385  | 131.06       |
| 69-70                                                                        | 7 626  | 752   | 98.63        | 7.39      | 7 250  | 9.64      | 56 333  | 135.32       |
| 70-71                                                                        | 6 874  | 698   | 101.49       | 7.14      | 6 525  | 9.35      | 49 103  | 140.06       |
| 71-72                                                                        | 6 176  | 650   | 105.32       | 6.89      | 5 851  | 9.00      | 42 578  | 145.14       |
| 72-73                                                                        | 5 526  | 610   | 110.25       | 6.65      | 5 221  | 8.56      | 36 727  | 150.38       |
| 73-74                                                                        | 4 916  | 570   | 116.09       | 6.41      | 4 631  | 8.12      | 31 506  | 156.01       |
| 74-75                                                                        | 4 346  | 532   | 122.36       | 6.18      | 4 080  | 7.67      | 26 875  | 161.81       |
| 75-76                                                                        | 3 814  | 490   | 128.53       | 5.98      | 3 569  | 7.28      | 22 795  | 167.22       |
| 76-77                                                                        | 3 324  | 446   | 134.17       | 5.78      | 3 101  | 6.95      | 19 226  | 173.01       |
| 77-78                                                                        | 2 878  | 401   | 139.19       | 5.60      | 2 677  | 6.68      | 16 125  | 178.57       |
| 78-79                                                                        | 2 477  | 356   | 143.70       | 5.43      | 2 299  | 6.46      | 13 448  | 184.16       |
| 79-80                                                                        | 2 121  | 314   | 147.97       | 5.26      | 1 964  | 6.25      | 11 149  | 190.11       |
| 80-81                                                                        | 1 807  | 275   | 152.30       | 5.08      | 1 670  | 6.07      | 9 185   | 196.85       |
| 81-82                                                                        | 1 532  | 240   | 156.97       | 4.90      | 1 413  | 5.87      | 7 515   | 204.08       |
| 82-83                                                                        | 1 292  | 210   | 162.05       | 4.72      | 1 187  | 5.67      | 6 103   | 211.86       |
| 83-84                                                                        | 1 082  | 181   | 167.62       | 4.54      | 992    | 5.47      | 4 916   | 220.26       |
| 84-85                                                                        | 901    | 157   | 173.72       | 4.35      | 823    | 5.26      | 3 924   | 229.89       |
| 85-86                                                                        | 744    | 134   | 180.51       | 4.17      | 677    | 5.04      | 3 101   | 239.81       |
| 86-87                                                                        | 610    | 115   | 188.20       | 3.97      | 553    | 4.81      | 2 424   | 251.89       |
| 87-88                                                                        | 495    | 97    | 197.06       | 3.78      | 446    | 4.57      | 1 871   | 261.55       |
| 88-89                                                                        | 398    | 83    | 207.30       | 3.58      | 356    | 4.32      | 1 425   | 279.33       |
| 89-90                                                                        | 315    | 69    | 219.14       | 3.39      | 281    | 4.06      | 1 069   | 294.99       |
| 90-91                                                                        | 246    | 57    | 232.50       | 3.20      | 218    | 3.80      | 788     | 312.50       |
| 91-92                                                                        | 189    | 47    | 247.17       | 3.02      | 166    | 3.55      | 570     | 331.13       |
| 92-93                                                                        | 142    | 37    | 262.83       | 2.84      | 124    | 3.30      | 404     | 352.11       |
| 93-94                                                                        | 105    | 29    | 279.29       | 2.68      | 90     | 3.08      | 280     | 373.13       |
| 94-95                                                                        | 76     | 23    | 296.44       | 2.52      | 64     | 2.87      | 190     | 396.83       |
| 95-96                                                                        | 53     | 17    | 314.36       | 2.37      | 45     | 2.68      | 126     | 421.94       |
| 96-97                                                                        | 36     | 12    | 333.18       | 2.23      | 30     | 2.50      | 81      | 448.43       |
| 97-98                                                                        | 24     | 8     | 353.11       | 2.09      | 20     | 2.33      | 51      | 478.47       |
| 98-99                                                                        | 16     | 6     | 374.28       | 1.96      | 13     | 2.17      | 31      | 510.20       |
| 99-100                                                                       | 10     | 4     | 396.75       | 1.81      | 8      | 2.02      | 18      | 543.48       |
| 100-101                                                                      | 6      | 3     | 420.55       | 1.72      | 5      | 1.88      | 10      | 581.40       |
| 101-102                                                                      | 3      | 1     | 445.77       | 1.61      | 3      | 1.74      | 5       | 621.12       |
| 102-103                                                                      | 2      | 1     | 472.48       | 1.50      | 1      | 1.62      | 2       | 666.67       |
| 103-104                                                                      | 1      | 1     | 500.78       | 1.40      | 1      | 1.50      | 1       | 714.29       |

TABLE 36

## LIFE TABLE FOR NEGRO FEMALES IN

BASED ON THE ESTIMATED MEAN POPULATION FOR THE 10-YEAR PERIOD 1901 TO 1910 (50,301), AND ON THE 1907 (1,338), IN 1908 (1,304), IN

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE INTERVAL. | OF 100,000 FEMALES BORN ALIVE:             |                                            | RATE OF MORTALITY PER THOUSAND. | COMPLETE EXPECTATION OF LIFE.                                                | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                                       |                                                    |                                                                    |
|---------------|--------------------------------------------|--------------------------------------------|---------------------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------|
|               |                                            |                                            |                                 |                                                                              | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS. | DEATH RATE PER THOUSAND.                                           |
|               | Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval.   | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval.                                                                                                                            | Including only those in current month or year of age. | Population per death in age interval.              | Sum of numbers in column 6 in current and all older age intervals. |
| $x$ to $x+1$  | $l_x$                                      | $d_x$                                      | $1000q_x$                       | $e_x$                                                                        | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                                             | $T_x$                                              | $1000L_x/T_x$                                                      |
| 1             | 2                                          | 3                                          | 4                               | 5                                                                            | 6                                                                                                                                                                                                           | 7                                                     | 8                                                  | 9                                                                  |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            | 100 000 |       | Monthly rate. | In years. |       | Per month. |           | Annual rate. |
| 0-1                                                                | 100 000 | 8 045 | 80.45         | 32.21     | 7 831 | 11.64      | 3 221 069 | 31.05        |
| 1-2                                                                | 91 955  | 2 538 | 27.60         | 34.94     | 7 557 | 35.76      | 3 213 238 | 28.62        |
| 2-3                                                                | 89 417  | 2 302 | 25.74         | 35.85     | 7 355 | 38.40      | 3 205 681 | 27.89        |
| 3-4                                                                | 87 115  | 2 082 | 23.91         | 36.71     | 7 173 | 41.10      | 3 198 326 | 27.24        |
| 4-5                                                                | 85 033  | 1 873 | 22.02         | 37.53     | 7 008 | 44.88      | 3 191 153 | 26.65        |
| 5-6                                                                | 83 160  | 1 679 | 20.20         | 38.29     | 6 860 | 49.08      | 3 184 145 | 26.12        |
| 6-7                                                                | 81 481  | 1 487 | 18.25         | 38.99     | 6 728 | 54.24      | 3 177 285 | 25.65        |
| 7-8                                                                | 79 994  | 1 301 | 16.29         | 39.63     | 6 612 | 60.84      | 3 170 557 | 25.23        |
| 8-9                                                                | 78 690  | 1 145 | 14.56         | 40.21     | 6 510 | 68.28      | 3 163 945 | 24.87        |
| 9-10                                                               | 77 545  | 997   | 12.86         | 40.72     | 6 421 | 77.28      | 3 157 435 | 24.56        |
| 10-11                                                              | 76 548  | 866   | 11.31         | 41.16     | 6 343 | 87.84      | 3 151 014 | 24.30        |
| 11-12                                                              | 75 682  | 769   | 10.17         | 41.55     | 6 275 | 97.92      | 3 144 671 | 24.07        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           | 100 000 |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 25 087 | 250.87       | 32.21     | 82 673 | 3.30      | 3 221 069 | 31.05        |
| 1-2                                                              | 74 913  | 4 866  | 64.95        | 41.89     | 72 012 | 11.81     | 3 138 396 | 23.87        |
| 2-3                                                              | 70 047  | 2 404  | 34.33        | 43.78     | 68 773 | 28.61     | 3 066 354 | 22.84        |
| 3-4                                                              | 67 613  | 1 281  | 18.97        | 44.31     | 66 975 | 52.16     | 2 997 581 | 22.57        |
| 4-5                                                              | 66 359  | 919    | 14.31        | 44.16     | 65 866 | 69.41     | 2 930 606 | 22.64        |
| 5-6                                                              | 65 410  | 709    | 10.85        | 43.80     | 65 055 | 91.76     | 2 864 740 | 22.83        |
| 6-7                                                              | 64 701  | 551    | 8.52         | 43.27     | 64 425 | 116.92    | 2 799 685 | 23.11        |
| 7-8                                                              | 64 150  | 441    | 6.86         | 42.61     | 63 929 | 141.96    | 2 735 260 | 23.15        |
| 8-9                                                              | 63 709  | 375    | 5.89         | 41.93     | 63 522 | 169.39    | 2 671 331 | 23.85        |
| 9-10                                                             | 63 334  | 351    | 5.55         | 41.18     | 63 158 | 179.94    | 2 607 809 | 24.28        |
| 10-11                                                            | 62 983  | 365    | 5.78         | 40.40     | 62 800 | 172.05    | 2 544 651 | 24.75        |
| 11-12                                                            | 62 618  | 405    | 6.47         | 39.63     | 62 416 | 151.11    | 2 481 851 | 25.23        |
| 12-13                                                            | 62 213  | 466    | 7.49         | 38.89     | 61 980 | 133.00    | 2 419 435 | 25.71        |
| 13-14                                                            | 61 747  | 537    | 8.70         | 38.18     | 61 479 | 114.49    | 2 357 455 | 26.19        |
| 14-15                                                            | 61 210  | 616    | 10.06        | 37.51     | 60 902 | 98.87     | 2 295 976 | 26.66        |
| 15-16                                                            | 60 594  | 700    | 11.57        | 36.89     | 60 244 | 86.06     | 2 235 074 | 27.11        |
| 16-17                                                            | 59 894  | 755    | 12.60        | 36.31     | 59 516 | 78.83     | 2 174 830 | 27.54        |
| 17-18                                                            | 59 139  | 763    | 12.90        | 35.77     | 58 758 | 77.01     | 2 115 314 | 27.96        |
| 18-19                                                            | 58 376  | 717    | 12.80        | 35.23     | 58 003 | 77.65     | 2 056 556 | 28.38        |
| 19-20                                                            | 57 629  | 736    | 12.78        | 34.68     | 57 261 | 77.80     | 1 998 553 | 28.84        |
| 20-21                                                            | 56 893  | 725    | 12.75        | 34.12     | 56 530 | 77.97     | 1 941 292 | 29.31        |
| 21-22                                                            | 56 168  | 719    | 12.79        | 33.56     | 55 809 | 77.62     | 1 881 762 | 29.80        |
| 22-23                                                            | 55 449  | 718    | 12.96        | 32.98     | 55 090 | 76.73     | 1 828 953 | 30.32        |
| 23-24                                                            | 54 731  | 724    | 13.22        | 32.41     | 54 369 | 75.10     | 1 773 863 | 30.85        |
| 24-25                                                            | 54 007  | 725    | 13.43        | 31.84     | 53 645 | 73.99     | 1 719 494 | 31.41        |
| 25-26                                                            | 53 282  | 727    | 13.65        | 31.26     | 52 918 | 72.79     | 1 665 819 | 31.99        |
| 26-27                                                            | 52 555  | 724    | 13.77        | 30.69     | 52 193 | 72.09     | 1 612 931 | 32.58        |
| 27-28                                                            | 51 831  | 712    | 13.74        | 30.11     | 51 475 | 72.30     | 1 560 738 | 33.21        |
| 28-29                                                            | 51 119  | 695    | 13.60        | 29.52     | 50 771 | 73.05     | 1 509 263 | 33.88        |
| 29-30                                                            | 50 424  | 680    | 13.48        | 28.92     | 50 084 | 73.65     | 1 458 492 | 34.58        |
| 30-31                                                            | 49 744  | 662    | 13.31        | 28.31     | 49 413 | 74.64     | 1 408 408 | 35.32        |
| 31-32                                                            | 49 082  | 651    | 13.32        | 27.69     | 48 755 | 74.55     | 1 358 995 | 36.11        |
| 32-33                                                            | 48 428  | 660    | 13.64        | 27.06     | 48 098 | 72.88     | 1 310 240 | 36.95        |
| 33-34                                                            | 47 768  | 677    | 14.17        | 26.42     | 47 429 | 70.06     | 1 262 142 | 37.85        |
| 34-35                                                            | 47 091  | 691    | 14.68        | 25.80     | 46 745 | 67.65     | 1 214 713 | 38.76        |
| 35-36                                                            | 46 400  | 705    | 15.20        | 25.17     | 46 047 | 65.31     | 1 167 968 | 39.73        |
| 36-37                                                            | 45 695  | 731    | 15.76        | 24.55     | 45 334 | 62.88     | 1 121 921 | 40.73        |
| 37-38                                                            | 44 974  | 737    | 16.39        | 23.94     | 44 606 | 60.52     | 1 076 587 | 41.77        |
| 38-39                                                            | 44 237  | 756    | 17.11        | 23.33     | 43 859 | 58.01     | 1 031 981 | 42.86        |
| 39-40                                                            | 43 481  | 779    | 17.90        | 22.73     | 43 092 | 55.32     | 988 122   | 43.99        |
| 40-41                                                            | 42 702  | 802    | 18.79        | 22.13     | 42 301 | 52.74     | 945 030   | 45.19        |
| 41-42                                                            | 41 900  | 823    | 19.65        | 21.54     | 41 489 | 50.41     | 902 729   | 46.43        |
| 42-43                                                            | 41 077  | 839    | 20.43        | 20.97     | 40 657 | 48.46     | 861 240   | 47.69        |
| 43-44                                                            | 40 238  | 854    | 21.22        | 20.39     | 39 811 | 46.62     | 820 583   | 49.01        |
| 44-45                                                            | 39 384  | 871    | 22.12        | 19.82     | 38 949 | 44.72     | 780 772   | 50.45        |



## THE DISTRICT OF COLUMBIA: 1901-1910.

TABLE 36

REPORTED DEATHS IN 1901 (1,373), IN 1902 (1,283), IN 1903 (1,280), IN 1904 (1,306), IN 1905 (1,334), IN 1906 (1,299), IN 1909 (1,267), AND IN 1910 (1,330).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE<br>INTERVAL.                                    | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION.                                                                                                                                              |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |         |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|---------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |         | Annual rate. |
| 45-46                                                                      | 38 513 | 889   | 23.08        | 19.26     | 38 069 | 42.82     | 741 823 | 51.92        |
| 46-47                                                                      | 37 624 | 918   | 21.41        | 18.70     | 37 165 | 40.18     | 703 754 | 53.18        |
| 47-48                                                                      | 36 706 | 960   | 26.14        | 18.16     | 36 226 | 37.74     | 666 589 | 55.07        |
| 48-49                                                                      | 35 746 | 999   | 27.97        | 17.63     | 35 246 | 35.28     | 630 363 | 56.72        |
| 49-50                                                                      | 34 747 | 1 033 | 29.72        | 17.13     | 34 230 | 33.14     | 595 117 | 58.38        |
| 50-51                                                                      | 33 714 | 1 060 | 31.45        | 16.61     | 33 184 | 31.31     | 560 887 | 60.10        |
| 51-52                                                                      | 32 654 | 1 072 | 32.83        | 16.16     | 32 118 | 29.96     | 527 703 | 61.88        |
| 52-53                                                                      | 31 582 | 1 070 | 33.87        | 15.69     | 31 047 | 29.02     | 495 585 | 63.73        |
| 53-54                                                                      | 30 512 | 1 063 | 34.83        | 15.22     | 29 980 | 28.20     | 464 538 | 65.70        |
| 54-55                                                                      | 29 449 | 1 060 | 36.00        | 14.76     | 28 919 | 27.28     | 434 558 | 67.75        |
| 55-56                                                                      | 28 389 | 1 061 | 37.35        | 14.29     | 27 859 | 26.26     | 405 639 | 69.98        |
| 56-57                                                                      | 27 328 | 1 077 | 39.12        | 13.82     | 26 790 | 24.87     | 377 780 | 72.36        |
| 57-58                                                                      | 26 251 | 1 108 | 42.22        | 13.37     | 25 697 | 23.19     | 350 990 | 74.79        |
| 58-59                                                                      | 25 143 | 1 134 | 45.09        | 12.94     | 24 576 | 21.67     | 325 293 | 77.28        |
| 59-60                                                                      | 24 009 | 1 147 | 47.77        | 12.53     | 23 436 | 20.43     | 300 717 | 79.81        |
| 60-61                                                                      | 22 862 | 1 147 | 50.20        | 12.13     | 22 288 | 19.43     | 277 281 | 82.44        |
| 61-62                                                                      | 21 715 | 1 162 | 53.50        | 11.74     | 21 134 | 18.19     | 254 993 | 85.18        |
| 62-63                                                                      | 20 553 | 1 176 | 57.22        | 11.38     | 19 965 | 16.98     | 233 859 | 87.87        |
| 63-64                                                                      | 19 377 | 1 186 | 61.20        | 11.04     | 18 784 | 15.84     | 213 894 | 90.58        |
| 64-65                                                                      | 18 191 | 1 187 | 65.25        | 10.73     | 17 598 | 14.83     | 195 110 | 93.20        |
| 65-66                                                                      | 17 004 | 1 175 | 69.10        | 10.44     | 16 417 | 13.97     | 177 512 | 95.79        |
| 66-67                                                                      | 15 829 | 1 148 | 72.53        | 10.18     | 15 255 | 13.29     | 161 095 | 98.23        |
| 67-68                                                                      | 14 681 | 1 106 | 75.33        | 9.93      | 14 128 | 12.77     | 145 840 | 100.70       |
| 68-69                                                                      | 13 575 | 1 051 | 77.44        | 9.70      | 13 050 | 12.42     | 131 712 | 103.09       |
| 69-70                                                                      | 12 524 | 988   | 78.92        | 9.47      | 12 030 | 12.18     | 118 662 | 105.60       |
| 70-71                                                                      | 11 536 | 923   | 79.97        | 9.24      | 11 074 | 12.00     | 106 632 | 108.23       |
| 71-72                                                                      | 10 613 | 858   | 80.89        | 9.00      | 10 181 | 11.87     | 95 558  | 111.11       |
| 72-73                                                                      | 9 755  | 800   | 81.99        | 8.75      | 9 355  | 11.69     | 85 374  | 114.29       |
| 73-74                                                                      | 8 955  | 748   | 83.55        | 8.49      | 8 581  | 11.47     | 76 019  | 117.79       |
| 74-75                                                                      | 8 207  | 701   | 85.77        | 8.22      | 7 855  | 11.16     | 67 438  | 121.65       |
| 75-76                                                                      | 7 503  | 666   | 88.74        | 7.94      | 7 170  | 10.77     | 59 583  | 125.94       |
| 76-77                                                                      | 6 837  | 632   | 92.41        | 7.67      | 6 521  | 10.32     | 52 413  | 130.38       |
| 77-78                                                                      | 6 205  | 600   | 96.66        | 7.40      | 5 905  | 9.84      | 45 892  | 135.14       |
| 78-79                                                                      | 5 605  | 568   | 101.34       | 7.13      | 5 321  | 9.37      | 39 987  | 140.25       |
| 79-80                                                                      | 5 037  | 535   | 106.25       | 6.88      | 4 770  | 8.92      | 34 666  | 145.35       |
| 80-81                                                                      | 4 502  | 501   | 111.25       | 6.64      | 4 252  | 8.49      | 29 896  | 150.60       |
| 81-82                                                                      | 4 001  | 465   | 116.22       | 6.41      | 3 769  | 8.10      | 25 644  | 156.01       |
| 82-83                                                                      | 3 536  | 428   | 121.14       | 6.19      | 3 322  | 7.75      | 21 875  | 161.55       |
| 83-84                                                                      | 3 108  | 392   | 126.01       | 5.97      | 2 912  | 7.44      | 18 553  | 167.50       |
| 84-85                                                                      | 2 716  | 355   | 130.89       | 5.76      | 2 538  | 7.14      | 15 641  | 173.61       |
| 85-86                                                                      | 2 361  | 321   | 135.81       | 5.55      | 2 200  | 6.86      | 13 103  | 180.18       |
| 86-87                                                                      | 2 040  | 287   | 140.90       | 5.34      | 1 896  | 6.60      | 10 903  | 187.27       |
| 87-88                                                                      | 1 753  | 256   | 146.10       | 5.14      | 1 625  | 6.34      | 9 007   | 194.55       |
| 88-89                                                                      | 1 497  | 227   | 151.44       | 4.93      | 1 383  | 6.10      | 7 382   | 202.84       |
| 89-90                                                                      | 1 270  | 199   | 156.93       | 4.72      | 1 170  | 5.87      | 5 999   | 211.86       |
| 90-91                                                                      | 1 071  | 175   | 162.65       | 4.51      | 984    | 5.65      | 4 829   | 221.73       |
| 91-92                                                                      | 896    | 151   | 168.84       | 4.29      | 821    | 5.42      | 3 845   | 233.10       |
| 92-93                                                                      | 745    | 131   | 175.93       | 4.06      | 680    | 5.18      | 3 024   | 246.31       |
| 93-94                                                                      | 614    | 113   | 184.52       | 3.82      | 557    | 4.92      | 2 344   | 261.78       |
| 94-95                                                                      | 501    | 98    | 195.34       | 3.57      | 452    | 4.63      | 1 787   | 280.11       |
| 95-96                                                                      | 403    | 84    | 209.09       | 3.31      | 361    | 4.28      | 1 335   | 302.11       |
| 96-97                                                                      | 319    | 72    | 226.29       | 3.06      | 283    | 3.92      | 974     | 326.80       |
| 97-98                                                                      | 247    | 61    | 247.24       | 2.81      | 216    | 3.54      | 691     | 355.87       |
| 98-99                                                                      | 186    | 51    | 271.94       | 2.56      | 160    | 3.18      | 475     | 390.63       |
| 99-100                                                                     | 135    | 40    | 300.15       | 2.33      | 115    | 2.83      | 315     | 429.18       |
| 100-101                                                                    | 95     | 32    | 331.54       | 2.12      | 79     | 2.59      | 200     | 471.70       |
| 101-102                                                                    | 63     | 23    | 365.68       | 1.92      | 52     | 2.33      | 121     | 520.83       |
| 102-103                                                                    | 40     | 16    | 402.22       | 1.74      | 33     | 1.99      | 69      | 571.71       |
| 103-104                                                                    | 24     | 11    | 440.60       | 1.58      | 19     | 1.77      | 37      | 632.91       |
| 104-105                                                                    | 13     | 6     | 480.91       | 1.43      | 10     | 1.68      | 18      | 699.30       |
| 105-106                                                                    | 7      | 4     | 523.68       | 1.30      | 5      | 1.41      | 8       | 769.23       |
| 106-107                                                                    | 3      | 2     | 568.82       | 1.17      | 2      | 1.26      | 3       | 854.70       |
| 107-108                                                                    | 1      | 1     | 616.19       | 1.06      | 1      | 1.12      | 1       | 943.40       |

TABLE 37

## LIFE TABLE FOR MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (1,296,108), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE<br>INTERVAL. | Of 100,000 MALES BORN<br>ALIVE:                     |                                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND. | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                           | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                                                |                                                            |                                                                               |
|------------------|-----------------------------------------------------|--------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------|
|                  |                                                     |                                                  |                                          |                                                                                               | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                                        | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS. | DEATH RATE<br>PER THOUSAND.                                                   |
|                  | Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval.         | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval.                                                                                                               | Including only<br>those in current<br>month or year<br>of age. | Population<br>per death in<br>age interval.                | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                               | $d_x$                                            | $1000q_x$                                | $e_x$                                                                                         | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                                      | $T_x$                                                      | $1000L_x/T_x$                                                                 |
| 1                | 2                                                   | 3                                                | 4                                        | 5                                                                                             | 6                                                                                                                                                                                                          | 7                                                              | 8                                                          | 9                                                                             |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 11 070 | 110.70       | 52.62     | 92 029 | 8.31      | 5 262 080 | 19.00        |
| 1-2                                                              | 88 930  | 2 597  | 29.20        | 58.14     | 87 398 | 33.65     | 5 170 051 | 17.20        |
| 2-3                                                              | 86 333  | 1 083  | 12.55        | 58.87     | 85 759 | 79.19     | 5 082 653 | 16.99        |
| 3-4                                                              | 85 250  | 673    | 7.89         | 58.61     | 84 900 | 126.15    | 4 996 894 | 17.06        |
| 4-5                                                              | 84 577  | 478    | 5.65         | 58.08     | 84 329 | 176.42    | 4 911 994 | 17.22        |
| 5-6                                                              | 84 099  | 398    | 4.74         | 57.40     | 83 900 | 210.80    | 4 827 665 | 17.42        |
| 6-7                                                              | 83 701  | 332    | 3.96         | 56.68     | 83 535 | 251.61    | 4 743 765 | 17.64        |
| 7-8                                                              | 83 369  | 280    | 3.36         | 55.90     | 83 229 | 297.25    | 4 660 230 | 17.89        |
| 8-9                                                              | 83 089  | 244    | 2.93         | 55.09     | 82 967 | 340.03    | 4 577 001 | 18.15        |
| 9-10                                                             | 82 845  | 220    | 2.66         | 54.25     | 82 735 | 376.07    | 4 494 034 | 18.43        |
| 10-11                                                            | 82 625  | 209    | 2.53         | 53.39     | 82 521 | 394.84    | 4 411 299 | 18.73        |
| 11-12                                                            | 82 416  | 209    | 2.54         | 52.52     | 82 312 | 393.84    | 4 328 778 | 19.04        |
| 12-13                                                            | 82 207  | 218    | 2.66         | 51.66     | 82 098 | 376.60    | 4 246 466 | 19.36        |
| 13-14                                                            | 81 989  | 236    | 2.88         | 50.79     | 81 871 | 346.91    | 4 164 368 | 19.69        |
| 14-15                                                            | 81 753  | 259    | 3.17         | 49.94     | 81 624 | 315.15    | 4 082 497 | 20.02        |
| 15-16                                                            | 81 494  | 288    | 3.53         | 49.09     | 81 350 | 282.47    | 4 000 873 | 20.37        |
| 16-17                                                            | 81 206  | 320    | 3.94         | 48.27     | 81 046 | 253.27    | 3 919 523 | 20.72        |
| 17-18                                                            | 80 886  | 354    | 4.37         | 47.46     | 80 709 | 227.99    | 3 838 477 | 21.07        |
| 18-19                                                            | 80 532  | 398    | 4.82         | 46.66     | 80 338 | 207.06    | 3 757 768 | 21.43        |
| 19-20                                                            | 80 144  | 423    | 5.28         | 45.89     | 79 933 | 188.97    | 3 677 430 | 21.79        |
| 20-21                                                            | 79 721  | 459    | 5.76         | 45.13     | 79 492 | 173.19    | 3 597 497 | 22.16        |
| 21-22                                                            | 79 262  | 499    | 6.30         | 44.38     | 79 012 | 158.34    | 3 518 005 | 22.53        |
| 22-23                                                            | 78 764  | 526    | 6.67         | 43.66     | 78 500 | 149.24    | 3 438 993 | 22.90        |
| 23-24                                                            | 78 237  | 525    | 6.72         | 42.95     | 77 975 | 148.52    | 3 360 493 | 23.28        |
| 24-25                                                            | 77 712  | 509    | 6.55         | 42.24     | 77 457 | 152.17    | 3 282 518 | 23.67        |
| 25-26                                                            | 77 203  | 494    | 6.40         | 41.51     | 76 956 | 155.78    | 3 205 061 | 24.09        |
| 26-27                                                            | 76 709  | 476    | 6.21         | 40.78     | 76 471 | 160.65    | 3 128 105 | 24.52        |
| 27-28                                                            | 76 233  | 463    | 6.07         | 40.03     | 76 001 | 161.15    | 3 051 634 | 24.98        |
| 28-29                                                            | 75 770  | 461    | 6.08         | 39.27     | 75 539 | 163.86    | 2 975 633 | 25.46        |
| 29-30                                                            | 75 309  | 466    | 6.18         | 38.51     | 75 076 | 161.11    | 2 900 094 | 25.97        |
| 30-31                                                            | 74 843  | 468    | 6.26         | 37.75     | 74 609 | 159.42    | 2 825 018 | 26.49        |
| 31-32                                                            | 74 375  | 470    | 6.32         | 36.98     | 74 140 | 157.74    | 2 750 409 | 27.04        |
| 32-33                                                            | 73 905  | 472    | 6.39         | 36.21     | 73 669 | 156.08    | 2 676 269 | 27.62        |
| 33-34                                                            | 73 433  | 473    | 6.44         | 35.44     | 73 196 | 154.75    | 2 602 600 | 28.22        |
| 34-35                                                            | 72 960  | 474    | 6.50         | 34.67     | 72 723 | 153.42    | 2 529 404 | 28.84        |
| 35-36                                                            | 72 486  | 476    | 6.57         | 33.89     | 72 248 | 151.78    | 2 456 681 | 29.51        |
| 36-37                                                            | 72 010  | 479    | 6.65         | 33.11     | 71 770 | 149.83    | 2 384 433 | 30.20        |
| 37-38                                                            | 71 531  | 486    | 6.79         | 32.33     | 71 288 | 146.68    | 2 312 663 | 30.93        |
| 38-39                                                            | 71 045  | 497    | 6.99         | 31.55     | 70 797 | 142.45    | 2 241 375 | 31.70        |
| 39-40                                                            | 70 548  | 512    | 7.26         | 30.77     | 70 292 | 137.29    | 2 170 578 | 32.50        |
| 40-41                                                            | 70 036  | 528    | 7.54         | 29.99     | 69 772 | 132.14    | 2 100 286 | 33.34        |
| 41-42                                                            | 69 508  | 544    | 7.84         | 29.21     | 69 236 | 127.27    | 2 030 514 | 34.23        |
| 42-43                                                            | 68 964  | 563    | 8.16         | 28.44     | 68 683 | 121.99    | 1 961 278 | 35.16        |
| 43-44                                                            | 68 401  | 581    | 8.50         | 27.67     | 68 111 | 117.23    | 1 892 595 | 36.14        |
| 44-45                                                            | 67 820  | 602    | 8.87         | 26.90     | 67 519 | 112.16    | 1 824 484 | 37.17        |

## THE STATE OF INDIANA: 1901.

## TABLE 37

REPORTED DEATHS IN 1900 (18,428), IN 1901 (18,022), AND IN 1902 (17,122).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                   | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                       | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 67 218 | 625   | 9.31         | 26.14     | 66 905 | 107.05    | 1 756 965 | 38.26        |
| 46-47                                                                      | 66 593 | 654   | 9.82         | 25.38     | 66 266 | 101.32    | 1 690 060 | 39.40        |
| 47-48                                                                      | 65 939 | 679   | 10.30        | 24.63     | 65 599 | 96.61     | 1 623 794 | 40.60        |
| 48-49                                                                      | 65 260 | 695   | 10.65        | 23.88     | 64 912 | 93.40     | 1 558 195 | 41.88        |
| 49-50                                                                      | 64 565 | 706   | 10.93        | 23.13     | 64 212 | 90.95     | 1 493 283 | 43.23        |
| 50-51                                                                      | 63 859 | 718   | 11.24        | 22.38     | 63 500 | 88.44     | 1 429 071 | 44.68        |
| 51-52                                                                      | 63 141 | 729   | 11.55        | 21.63     | 62 777 | 86.11     | 1 365 571 | 46.23        |
| 52-53                                                                      | 62 412 | 752   | 12.05        | 20.87     | 62 036 | 82.49     | 1 302 794 | 47.92        |
| 53-54                                                                      | 61 660 | 796   | 12.92        | 20.12     | 61 262 | 76.96     | 1 240 758 | 49.70        |
| 54-55                                                                      | 60 864 | 858   | 14.10        | 19.38     | 60 435 | 70.44     | 1 179 496 | 51.60        |
| 55-56                                                                      | 60 006 | 924   | 15.40        | 18.65     | 59 544 | 64.44     | 1 119 061 | 53.62        |
| 56-57                                                                      | 59 082 | 1 000 | 16.92        | 17.93     | 58 582 | 58.58     | 1 059 517 | 55.77        |
| 57-58                                                                      | 58 082 | 1 073 | 18.48        | 17.23     | 57 545 | 53.63     | 1 000 935 | 58.04        |
| 58-59                                                                      | 57 009 | 1 133 | 19.87        | 16.55     | 56 442 | 49.82     | 943 390   | 60.42        |
| 59-60                                                                      | 55 876 | 1 183 | 21.17        | 15.87     | 55 284 | 46.73     | 886 948   | 63.01        |
| 60-61                                                                      | 54 693 | 1 240 | 22.67        | 15.21     | 54 073 | 43.61     | 831 664   | 65.75        |
| 61-62                                                                      | 53 453 | 1 298 | 24.28        | 14.55     | 52 804 | 40.68     | 777 591   | 68.73        |
| 62-63                                                                      | 52 155 | 1 370 | 26.27        | 13.90     | 51 470 | 37.57     | 724 787   | 71.94        |
| 63-64                                                                      | 50 785 | 1 461 | 28.82        | 13.26     | 50 053 | 34.19     | 673 317   | 75.41        |
| 64-65                                                                      | 49 321 | 1 568 | 31.81        | 12.64     | 48 537 | 30.95     | 623 264   | 79.11        |
| 65-66                                                                      | 47 753 | 1 668 | 34.93        | 12.04     | 46 919 | 28.13     | 574 727   | 83.06        |
| 66-67                                                                      | 46 085 | 1 763 | 38.24        | 11.45     | 45 204 | 25.64     | 527 808   | 87.34        |
| 67-68                                                                      | 44 322 | 1 849 | 41.72        | 10.89     | 43 398 | 23.47     | 482 604   | 91.83        |
| 68-69                                                                      | 42 473 | 1 929 | 45.43        | 10.34     | 41 509 | 21.52     | 439 206   | 96.71        |
| 69-70                                                                      | 40 544 | 2 007 | 49.49        | 9.81      | 39 541 | 19.70     | 397 697   | 101.94       |
| 70-71                                                                      | 38 537 | 2 080 | 53.98        | 9.29      | 37 497 | 18.03     | 358 156   | 107.64       |
| 71-72                                                                      | 36 457 | 2 146 | 58.87        | 8.80      | 35 384 | 16.49     | 320 659   | 113.64       |
| 72-73                                                                      | 34 311 | 2 200 | 64.12        | 8.31      | 33 211 | 15.10     | 285 275   | 120.34       |
| 73-74                                                                      | 32 111 | 2 243 | 69.83        | 7.85      | 30 989 | 13.82     | 252 064   | 127.39       |
| 74-75                                                                      | 29 868 | 2 273 | 76.12        | 7.40      | 28 731 | 12.64     | 221 075   | 135.14       |
| 75-76                                                                      | 27 595 | 2 296 | 83.18        | 6.97      | 26 447 | 11.52     | 192 344   | 143.47       |
| 76-77                                                                      | 25 299 | 2 307 | 91.19        | 6.56      | 24 146 | 10.47     | 165 897   | 152.44       |
| 77-78                                                                      | 22 992 | 2 306 | 100.32       | 6.17      | 21 839 | 9.47      | 141 751   | 162.07       |
| 78-79                                                                      | 20 686 | 2 288 | 110.58       | 5.80      | 19 542 | 8.54      | 119 912   | 172.41       |
| 79-80                                                                      | 18 398 | 2 240 | 121.78       | 5.46      | 17 278 | 7.71      | 100 370   | 183.15       |
| 80-81                                                                      | 16 158 | 2 158 | 133.55       | 5.14      | 15 079 | 6.99      | 83 092    | 194.55       |
| 81-82                                                                      | 14 000 | 2 035 | 145.38       | 4.86      | 12 982 | 6.38      | 68 013    | 205.76       |
| 82-83                                                                      | 11 965 | 1 877 | 156.87       | 4.60      | 11 026 | 5.87      | 55 031    | 217.39       |
| 83-84                                                                      | 10 088 | 1 692 | 167.73       | 4.36      | 9 242  | 5.46      | 44 005    | 229.36       |
| 84-85                                                                      | 8 396  | 1 495 | 178.00       | 4.14      | 7 618  | 5.12      | 34 763    | 241.53       |
| 85-86                                                                      | 6 901  | 1 297 | 187.96       | 3.93      | 6 253  | 4.82      | 27 115    | 254.45       |
| 86-87                                                                      | 5 604  | 1 110 | 198.43       | 3.72      | 5 049  | 4.55      | 20 862    | 268.82       |
| 87-88                                                                      | 4 494  | 940   | 209.10       | 3.52      | 4 024  | 4.28      | 15 813    | 284.09       |
| 88-89                                                                      | 3 554  | 787   | 221.40       | 3.32      | 3 161  | 4.03      | 11 789    | 301.20       |
| 89-90                                                                      | 2 767  | 651   | 235.39       | 3.12      | 2 442  | 3.75      | 8 628     | 320.51       |
| 90-91                                                                      | 2 116  | 532   | 251.18       | 2.92      | 1 850  | 3.48      | 6 186     | 342.47       |
| 91-92                                                                      | 1 584  | 425   | 268.67       | 2.74      | 1 372  | 3.22      | 4 336     | 361.96       |
| 92-93                                                                      | 1 159  | 334   | 287.65       | 2.56      | 992    | 2.98      | 2 964     | 390.63       |
| 93-94                                                                      | 825    | 254   | 307.90       | 2.39      | 698    | 2.75      | 1 972     | 418.41       |
| 94-95                                                                      | 571    | 188   | 329.28       | 2.23      | 477    | 2.54      | 1 274     | 448.43       |
| 95-96                                                                      | 383    | 135   | 351.75       | 2.09      | 316    | 2.34      | 797       | 478.47       |
| 96-97                                                                      | 248    | 93    | 375.29       | 1.95      | 202    | 2.16      | 481       | 512.82       |
| 97-98                                                                      | 155    | 62    | 400.06       | 1.81      | 124    | 2.00      | 279       | 532.49       |
| 98-99                                                                      | 93     | 40    | 426.09       | 1.69      | 73     | 1.85      | 155       | 591.72       |
| 99-100                                                                     | 53     | 24    | 453.40       | 1.57      | 41     | 1.71      | 82        | 636.94       |
| 100-101                                                                    | 29     | 14    | 482.00       | 1.46      | 22     | 1.57      | 41        | 684.93       |
| 101-102                                                                    | 15     | 8     | 511.89       | 1.36      | 11     | 1.45      | 19        | 735.29       |
| 102-103                                                                    | 7      | 4     | 543.07       | 1.27      | 5      | 1.34      | 8         | 787.40       |
| 103-104                                                                    | 3      | 2     | 575.50       | 1.18      | 2      | 1.24      | 3         | 847.46       |
| 104-105                                                                    | 1      | 1     | 609.14       | 1.09      | 1      | 1.14      | 1         | 917.43       |

TABLE 38

## LIFE TABLE FOR MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (1,385,288), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE<br>INTERVAL. | OF 100,000 MALES BORN<br>ALIVE:                     |                                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND. | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                           | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                                                |                                                            |                                                                               |
|------------------|-----------------------------------------------------|--------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------|
|                  |                                                     |                                                  |                                          |                                                                                               | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                                        | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS. | DEATH RATE<br>PER THOUSAND.                                                   |
|                  | Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval.         | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval.                                                                                                               | Including only<br>those in current<br>month or year<br>of age. | Population<br>per death in<br>age interval.                | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                               | $d_x$                                            | $1000q_x$                                | $e_x$                                                                                         | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                                      | $T_x$                                                      | $1000L_x/T_x$                                                                 |
| 1                | 2                                                   | 3                                                | 4                                        | 5                                                                                             | 6                                                                                                                                                                                                          | 7                                                              | 8                                                          | 9                                                                             |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            | 100 000 | 4 560 | Monthly rate. | In years. |       | Per month. |           | Annual rate. |
| 0-1                                                                | 100 000 | 4 560 | 45.60         | 51.70     | 8 048 | 21.12      | 5 469 984 | 18.28        |
| 1-2                                                                | 95 440  | 856   | 8.97          | 57.23     | 7 918 | 111.00     | 5 461 936 | 17.47        |
| 2-3                                                                | 94 584  | 680   | 7.19          | 57.66     | 7 854 | 138.60     | 5 454 018 | 17.34        |
| 3-4                                                                | 93 904  | 561   | 5.97          | 58.00     | 7 802 | 166.92     | 5 446 161 | 17.21        |
| 4-5                                                                | 93 343  | 483   | 5.17          | 58.26     | 7 758 | 192.72     | 5 438 362 | 17.16        |
| 5-6                                                                | 92 860  | 433   | 4.67          | 58.48     | 7 720 | 213.96     | 5 430 604 | 17.10        |
| 6-7                                                                | 92 427  | 399   | 4.32          | 58.67     | 7 686 | 231.12     | 5 422 881 | 17.04        |
| 7-8                                                                | 92 023  | 367   | 4.00          | 58.84     | 7 651 | 250.32     | 5 415 198 | 17.00        |
| 8-9                                                                | 91 661  | 340   | 3.70          | 59.00     | 7 621 | 269.01     | 5 407 544 | 16.95        |
| 9-10                                                               | 91 321  | 314   | 3.44          | 59.13     | 7 597 | 290.28     | 5 399 920 | 16.91        |
| 10-11                                                              | 91 007  | 295   | 3.24          | 59.25     | 7 572 | 308.04     | 5 392 323 | 16.88        |
| 11-12                                                              | 90 712  | 271   | 3.02          | 59.36     | 7 548 | 330.60     | 5 384 751 | 16.85        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |       |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           | 100 000 | 9 562 | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 9 562 | 95.62        | 51.70     | 92 781 | 9.70      | 5 469 984 | 18.28        |
| 1-2                                                              | 90 438  | 2 133 | 23.59        | 59.46     | 89 179 | 41.81     | 5 377 203 | 16.82        |
| 2-3                                                              | 88 303  | 894   | 10.12        | 59.88     | 87 831 | 98.24     | 5 288 024 | 16.70        |
| 3-4                                                              | 87 411  | 520   | 5.95         | 59.49     | 87 141 | 167.58    | 5 200 193 | 16.81        |
| 4-5                                                              | 86 891  | 355   | 4.09         | 58.84     | 86 706 | 244.24    | 5 113 052 | 17.00        |
| 5-6                                                              | 86 536  | 330   | 3.81         | 58.08     | 86 371 | 261.73    | 5 026 346 | 17.22        |
| 6-7                                                              | 86 206  | 280   | 3.25         | 57.30     | 86 066 | 307.38    | 4 939 975 | 17.45        |
| 7-8                                                              | 85 926  | 242   | 2.81         | 56.49     | 85 805 | 351.57    | 4 853 909 | 17.70        |
| 8-9                                                              | 85 684  | 213   | 2.49         | 55.65     | 85 573 | 401.77    | 4 768 104 | 17.97        |
| 9-10                                                             | 85 471  | 195   | 2.28         | 54.78     | 85 374 | 437.82    | 4 682 526 | 18.25        |
| 10-11                                                            | 85 276  | 186   | 2.19         | 53.91     | 85 183 | 457.97    | 4 597 152 | 18.55        |
| 11-12                                                            | 85 090  | 180   | 2.21         | 53.03     | 84 996 | 449.71    | 4 511 969 | 18.86        |
| 12-13                                                            | 84 901  | 197   | 2.32         | 52.14     | 84 803 | 430.47    | 4 426 973 | 19.18        |
| 13-14                                                            | 84 701  | 212   | 2.51         | 51.26     | 84 598 | 399.05    | 4 342 170 | 19.51        |
| 14-15                                                            | 84 492  | 233   | 2.76         | 50.39     | 84 375 | 362.12    | 4 257 572 | 19.85        |
| 15-16                                                            | 84 259  | 255   | 3.03         | 49.53     | 84 131 | 329.93    | 4 173 197 | 20.19        |
| 16-17                                                            | 84 001  | 281   | 3.37         | 48.68     | 83 863 | 295.29    | 4 089 066 | 20.54        |
| 17-18                                                            | 83 720  | 318   | 3.80         | 47.84     | 83 561 | 262.77    | 4 005 204 | 20.90        |
| 18-19                                                            | 83 402  | 357   | 4.29         | 47.02     | 83 223 | 233.12    | 3 921 613 | 21.27        |
| 19-20                                                            | 83 045  | 397   | 4.78         | 46.22     | 82 846 | 208.68    | 3 838 420 | 21.64        |
| 20-21                                                            | 82 648  | 440   | 5.32         | 45.44     | 82 428 | 187.34    | 3 755 574 | 22.01        |
| 21-22                                                            | 82 208  | 468   | 5.69         | 44.68     | 81 971 | 175.16    | 3 673 116 | 22.38        |
| 22-23                                                            | 81 740  | 471   | 5.76         | 43.93     | 81 505 | 173.05    | 3 591 172 | 22.76        |
| 23-24                                                            | 81 269  | 458   | 5.64         | 43.19     | 81 040 | 176.94    | 3 509 667 | 23.15        |
| 24-25                                                            | 80 811  | 448   | 5.54         | 42.43     | 80 587 | 179.88    | 3 428 627 | 23.57        |
| 25-26                                                            | 80 363  | 434   | 5.41         | 41.66     | 80 146 | 184.67    | 3 348 040 | 24.00        |
| 26-27                                                            | 79 929  | 428   | 5.35         | 40.88     | 79 715 | 186.25    | 3 267 894 | 24.46        |
| 27-28                                                            | 79 501  | 433   | 5.44         | 40.10     | 79 284 | 183.10    | 3 188 179 | 24.94        |
| 28-29                                                            | 79 068  | 446   | 5.64         | 39.32     | 78 845 | 176.78    | 3 108 895 | 25.43        |
| 29-30                                                            | 78 622  | 458   | 5.82         | 38.54     | 78 393 | 171.16    | 3 030 050 | 25.95        |
| 30-31                                                            | 78 161  | 470   | 6.01         | 37.76     | 77 929 | 165.81    | 2 951 657 | 26.48        |
| 31-32                                                            | 77 694  | 480   | 6.19         | 36.99     | 77 454 | 161.36    | 2 873 728 | 27.03        |
| 32-33                                                            | 77 214  | 487   | 6.30         | 36.21     | 76 970 | 158.05    | 2 796 274 | 27.62        |
| 33-34                                                            | 76 727  | 490   | 6.38         | 35.44     | 76 482 | 156.09    | 2 719 304 | 28.22        |
| 34-35                                                            | 76 237  | 494   | 6.48         | 34.67     | 75 990 | 153.83    | 2 642 822 | 28.84        |
| 35-36                                                            | 75 743  | 499   | 6.59         | 33.89     | 75 493 | 151.29    | 2 566 832 | 29.51        |
| 36-37                                                            | 75 244  | 506   | 6.72         | 33.11     | 74 991 | 148.20    | 2 491 339 | 30.20        |
| 37-38                                                            | 74 738  | 514   | 6.88         | 32.33     | 74 481 | 144.90    | 2 416 348 | 30.93        |
| 38-39                                                            | 74 224  | 525   | 7.08         | 31.55     | 73 962 | 140.88    | 2 341 867 | 31.70        |
| 39-40                                                            | 73 699  | 536   | 7.28         | 30.77     | 73 431 | 137.00    | 2 267 905 | 32.50        |
| 40-41                                                            | 73 163  | 546   | 7.49         | 29.99     | 72 889 | 133.01    | 2 194 471 | 33.34        |
| 41-42                                                            | 72 615  | 563   | 7.75         | 29.22     | 72 333 | 128.48    | 2 121 585 | 34.22        |
| 42-43                                                            | 72 052  | 582   | 8.09         | 28.44     | 71 761 | 123.30    | 2 049 252 | 35.16        |
| 43-44                                                            | 71 470  | 608   | 8.50         | 27.67     | 71 166 | 117.05    | 1 977 491 | 36.14        |
| 44-45                                                            | 70 862  | 635   | 8.97         | 26.90     | 70 545 | 111.09    | 1 906 325 | 37.17        |

## THE STATE OF INDIANA: 1910.

## TABLE 38

REPORTED DEATHS IN 1909 (18,264), IN 1910 (19,251), AND IN 1911 (18,717).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                   | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                       | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |        |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|--------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        |        | Per year. | Annual rate. |
| 45-46                                                                      | 70 227 | 671   | 9.56         | 26.14     | 69 891 | 104.16 | 1 835 780 | 38.26        |
| 46-47                                                                      | 69 556 | 699   | 10.05        | 25.39     | 69 206 | 99.01  | 1 765 889 | 39.39        |
| 47-48                                                                      | 68 857 | 709   | 10.29        | 24.64     | 68 503 | 96.62  | 1 696 683 | 40.58        |
| 48-49                                                                      | 68 118 | 706   | 10.36        | 23.89     | 67 795 | 96.03  | 1 628 180 | 41.86        |
| 49-50                                                                      | 67 442 | 707   | 10.48        | 23.14     | 67 089 | 94.89  | 1 560 385 | 43.22        |
| 50-51                                                                      | 66 735 | 705   | 10.57        | 22.38     | 66 382 | 94.16  | 1 493 296 | 44.68        |
| 51-52                                                                      | 66 030 | 722   | 10.94        | 21.61     | 65 669 | 90.95  | 1 426 914 | 46.27        |
| 52-53                                                                      | 65 308 | 772   | 11.81        | 20.84     | 64 922 | 81.10  | 1 361 245 | 47.98        |
| 53-54                                                                      | 64 536 | 847   | 13.14        | 20.09     | 64 112 | 75.69  | 1 296 323 | 49.78        |
| 54-55                                                                      | 63 689 | 931   | 14.61        | 19.35     | 63 233 | 67.91  | 1 232 211 | 51.68        |
| 55-56                                                                      | 62 758 | 1 029 | 16.40        | 18.63     | 62 243 | 60.49  | 1 168 988 | 53.68        |
| 56-57                                                                      | 61 729 | 1 120 | 18.14        | 17.93     | 61 169 | 54.62  | 1 106 745 | 55.77        |
| 57-58                                                                      | 60 609 | 1 176 | 19.41        | 17.25     | 60 021 | 51.04  | 1 045 576 | 57.97        |
| 58-59                                                                      | 59 433 | 1 208 | 20.32        | 16.58     | 58 829 | 48.70  | 985 555   | 60.31        |
| 59-60                                                                      | 58 225 | 1 248 | 21.45        | 15.92     | 57 601 | 46.15  | 926 726   | 62.81        |
| 60-61                                                                      | 56 977 | 1 290 | 22.64        | 15.25     | 56 332 | 43.67  | 869 125   | 65.57        |
| 61-62                                                                      | 55 687 | 1 316 | 24.17        | 14.60     | 55 014 | 40.87  | 812 793   | 68.49        |
| 62-63                                                                      | 54 341 | 1 428 | 26.28        | 13.94     | 53 627 | 37.55  | 757 779   | 71.74        |
| 63-64                                                                      | 52 913 | 1 528 | 28.57        | 13.31     | 52 149 | 34.13  | 704 152   | 75.13        |
| 64-65                                                                      | 51 385 | 1 621 | 31.54        | 12.69     | 50 575 | 31.20  | 652 003   | 78.80        |
| 65-66                                                                      | 49 764 | 1 711 | 34.39        | 12.09     | 48 909 | 28.59  | 601 428   | 82.71        |
| 66-67                                                                      | 48 053 | 1 797 | 37.39        | 11.50     | 47 155 | 26.24  | 552 519   | 86.96        |
| 67-68                                                                      | 46 256 | 1 877 | 40.59        | 10.93     | 45 318 | 24.14  | 505 364   | 91.49        |
| 68-69                                                                      | 44 379 | 1 957 | 44.10        | 10.37     | 43 400 | 22.18  | 460 046   | 96.43        |
| 69-70                                                                      | 42 422 | 2 036 | 47.99        | 9.82      | 41 404 | 20.34  | 416 646   | 101.83       |
| 70-71                                                                      | 40 386 | 2 110 | 52.24        | 9.29      | 39 331 | 18.64  | 375 242   | 107.64       |
| 71-72                                                                      | 38 276 | 2 193 | 57.29        | 8.78      | 37 180 | 16.95  | 335 911   | 113.90       |
| 72-73                                                                      | 36 083 | 2 267 | 63.41        | 8.28      | 34 940 | 15.28  | 298 731   | 120.77       |
| 73-74                                                                      | 33 796 | 2 381 | 70.45        | 7.81      | 32 605 | 13.69  | 263 791   | 128.04       |
| 74-75                                                                      | 31 415 | 2 459 | 78.27        | 7.36      | 30 185 | 12.28  | 231 186   | 135.87       |
| 75-76                                                                      | 28 956 | 2 525 | 87.21        | 6.94      | 27 693 | 10.97  | 201 001   | 144.09       |
| 76-77                                                                      | 26 431 | 2 512 | 96.16        | 6.56      | 25 160 | 9.90   | 173 308   | 152.44       |
| 77-78                                                                      | 23 889 | 2 493 | 104.37       | 6.20      | 22 643 | 9.08   | 148 148   | 161.29       |
| 78-79                                                                      | 21 396 | 2 401 | 112.23       | 5.87      | 20 195 | 8.41   | 125 505   | 170.36       |
| 79-80                                                                      | 18 995 | 2 308 | 121.50       | 5.51      | 17 811 | 7.73   | 105 310   | 180.51       |
| 80-81                                                                      | 16 687 | 2 213 | 132.61       | 5.24      | 15 550 | 7.04   | 87 469    | 190.84       |
| 81-82                                                                      | 14 474 | 2 087 | 144.21       | 4.97      | 13 430 | 6.43   | 71 889    | 201.21       |
| 82-83                                                                      | 12 357 | 1 914 | 154.50       | 4.72      | 11 430 | 5.97   | 58 459    | 211.86       |
| 83-84                                                                      | 10 473 | 1 706 | 162.91       | 4.49      | 9 620  | 5.64   | 47 029    | 222.72       |
| 84-85                                                                      | 8 767  | 1 502 | 171.30       | 4.27      | 8 016  | 5.34   | 37 409    | 234.19       |
| 85-86                                                                      | 7 265  | 1 308 | 180.06       | 4.05      | 6 611  | 5.05   | 29 393    | 246.91       |
| 86-87                                                                      | 5 957  | 1 142 | 191.67       | 3.82      | 5 386  | 4.72   | 22 782    | 261.78       |
| 87-88                                                                      | 4 815  | 985   | 204.66       | 3.61      | 4 322  | 4.39   | 17 396    | 277.01       |
| 88-89                                                                      | 3 830  | 838   | 218.81       | 3.41      | 3 411  | 4.07   | 13 074    | 293.26       |
| 89-90                                                                      | 2 992  | 699   | 233.62       | 3.23      | 2 642  | 3.78   | 9 663     | 309.60       |
| 90-91                                                                      | 2 293  | 570   | 248.44       | 3.06      | 2 008  | 3.53   | 7 021     | 326.80       |
| 91-92                                                                      | 1 723  | 453   | 262.77       | 2.91      | 1 497  | 3.31   | 5 013     | 343.64       |
| 92-93                                                                      | 1 270  | 351   | 276.42       | 2.77      | 1 095  | 3.12   | 3 516     | 361.01       |
| 93-94                                                                      | 919    | 266   | 289.63       | 2.63      | 786    | 2.95   | 2 421     | 380.23       |
| 94-95                                                                      | 653    | 198   | 302.97       | 2.50      | 554    | 2.80   | 1 635     | 400.00       |
| 95-96                                                                      | 455    | 144   | 317.16       | 2.37      | 383    | 2.65   | 1 081     | 421.94       |
| 96-97                                                                      | 311    | 101   | 332.91       | 2.24      | 259    | 2.50   | 698       | 446.43       |
| 97-98                                                                      | 207    | 72    | 350.68       | 2.11      | 171    | 2.35   | 439       | 473.93       |
| 98-99                                                                      | 135    | 50    | 370.64       | 1.99      | 110    | 2.20   | 268       | 502.31       |
| 99-100                                                                     | 85     | 34    | 392.59       | 1.86      | 69     | 2.03   | 168       | 537.63       |
| 100-101                                                                    | 51     | 21    | 416.24       | 1.74      | 41     | 1.90   | 90        | 574.71       |
| 101-102                                                                    | 30     | 13    | 441.29       | 1.63      | 23     | 1.77   | 49        | 613.50       |
| 102-103                                                                    | 17     | 8     | 467.62       | 1.52      | 13     | 1.64   | 26        | 657.89       |
| 103-104                                                                    | 9      | 4     | 495.26       | 1.42      | 7      | 1.52   | 13        | 704.23       |
| 104-105                                                                    | 5      | 3     | 524.40       | 1.33      | 3      | 1.41   | 6         | 757.58       |
| 105-106                                                                    | 2      | 1     | 555.34       | 1.23      | 2      | 1.30   | 3         | 813.01       |
| 106-107                                                                    | 1      | 1     | 588.22       | 1.14      | 1      | 1.20   | 1         | 877.19       |

TABLE 39

## LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (1,240,585), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE<br>INTERVAL.                                    | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |       |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 9 366 | 93.66        | 52.91     | 93 350 | 9.97      | 5 290 979 | 18.90        |
| 1-2                                                              | 90 631  | 2 425 | 26.76        | 57.35     | 89 203 | 36.78     | 5 197 629 | 17.44        |
| 2-3                                                              | 88 209  | 1 185 | 13.43        | 57.91     | 87 581 | 73.91     | 5 108 426 | 17.27        |
| 3-4                                                              | 87 024  | 632   | 7.26         | 57.69     | 86 696 | 137.18    | 5 020 815 | 17.33        |
| 4-5                                                              | 86 392  | 530   | 6.14         | 57.11     | 86 116 | 162.48    | 4 934 119 | 17.51        |
| 5-6                                                              | 85 862  | 435   | 5.07         | 56.46     | 85 614 | 196.88    | 4 848 033 | 17.71        |
| 6-7                                                              | 85 427  | 350   | 4.09         | 55.75     | 85 252 | 213.58    | 4 762 389 | 17.94        |
| 7-8                                                              | 85 077  | 278   | 3.27         | 54.98     | 84 938 | 305.53    | 4 677 137 | 18.19        |
| 8-9                                                              | 84 799  | 226   | 2.66         | 54.15     | 84 686 | 374.72    | 4 592 199 | 18.47        |
| 9-10                                                             | 84 573  | 196   | 2.32         | 53.30     | 84 475 | 430.99    | 4 507 513 | 18.76        |
| 10-11                                                            | 84 377  | 188   | 2.22         | 52.42     | 84 283 | 448.31    | 4 423 038 | 19.08        |
| 11-12                                                            | 84 189  | 197   | 2.34         | 51.51     | 84 091 | 426.86    | 4 338 755 | 19.40        |
| 12-13                                                            | 83 992  | 222   | 2.64         | 50.66     | 83 881 | 377.84    | 4 254 664 | 19.74        |
| 13-14                                                            | 83 770  | 258   | 3.09         | 49.79     | 83 641 | 324.19    | 4 170 783 | 20.08        |
| 14-15                                                            | 83 512  | 304   | 3.64         | 48.94     | 83 360 | 274.21    | 4 087 142 | 20.43        |
| 15-16                                                            | 83 208  | 357   | 4.29         | 48.12     | 83 029 | 232.57    | 4 003 782 | 20.78        |
| 16-17                                                            | 82 851  | 417   | 5.03         | 47.32     | 82 642 | 198.18    | 3 920 753 | 21.13        |
| 17-18                                                            | 82 431  | 471   | 5.71         | 46.56     | 82 199 | 174.52    | 3 838 111 | 21.48        |
| 18-19                                                            | 81 963  | 512   | 6.25         | 45.82     | 81 707 | 159.58    | 3 755 912 | 21.82        |
| 19-20                                                            | 81 451  | 546   | 6.70         | 45.11     | 81 178 | 148.68    | 3 674 205 | 22.17        |
| 20-21                                                            | 80 905  | 582   | 7.20         | 44.41     | 80 614 | 138.51    | 3 593 027 | 22.52        |
| 21-22                                                            | 80 323  | 621   | 7.73         | 43.73     | 80 012 | 128.84    | 3 512 413 | 22.87        |
| 22-23                                                            | 79 702  | 646   | 8.11         | 43.07     | 79 379 | 122.88    | 3 432 401 | 23.22        |
| 23-24                                                            | 79 056  | 653   | 8.25         | 42.41     | 78 729 | 120.57    | 3 353 022 | 23.58        |
| 24-25                                                            | 78 403  | 645   | 8.22         | 41.76     | 78 081 | 121.06    | 3 274 293 | 23.95        |
| 25-26                                                            | 77 758  | 636   | 8.18         | 41.10     | 77 440 | 121.76    | 3 196 212 | 24.33        |
| 26-27                                                            | 77 122  | 621   | 8.09         | 40.44     | 76 810 | 123.09    | 3 118 772 | 24.73        |
| 27-28                                                            | 76 498  | 613   | 8.02         | 39.77     | 76 192 | 124.29    | 3 041 962 | 25.14        |
| 28-29                                                            | 75 885  | 607   | 8.01         | 39.08     | 75 581 | 124.52    | 2 965 770 | 25.59        |
| 29-30                                                            | 75 278  | 605   | 8.04         | 38.39     | 74 975 | 123.93    | 2 890 189 | 26.05        |
| 30-31                                                            | 74 673  | 600   | 8.03         | 37.70     | 74 373 | 123.96    | 2 815 214 | 26.53        |
| 31-32                                                            | 74 073  | 593   | 8.00         | 37.00     | 73 777 | 124.41    | 2 740 841 | 27.03        |
| 32-33                                                            | 73 480  | 586   | 7.98         | 36.30     | 73 187 | 124.89    | 2 667 064 | 27.55        |
| 33-34                                                            | 72 894  | 582   | 7.99         | 35.58     | 72 603 | 124.75    | 2 593 877 | 28.11        |
| 34-35                                                            | 72 312  | 580   | 8.01         | 34.87     | 72 022 | 124.18    | 2 521 274 | 28.68        |
| 35-36                                                            | 71 732  | 576   | 8.04         | 34.14     | 71 444 | 124.03    | 2 449 252 | 29.29        |
| 36-37                                                            | 71 156  | 574   | 8.06         | 33.42     | 70 869 | 123.47    | 2 377 808 | 29.92        |
| 37-38                                                            | 70 582  | 573   | 8.13         | 32.68     | 70 296 | 122.68    | 2 306 939 | 30.60        |
| 38-39                                                            | 70 009  | 578   | 8.25         | 31.95     | 69 720 | 120.62    | 2 236 643 | 31.30        |
| 39-40                                                            | 69 431  | 585   | 8.42         | 31.21     | 69 139 | 118.19    | 2 166 923 | 32.04        |
| 40-41                                                            | 68 846  | 592   | 8.60         | 30.47     | 68 550 | 115.79    | 2 097 781 | 32.82        |
| 41-42                                                            | 68 254  | 602   | 8.82         | 29.73     | 67 953 | 112.88    | 2 029 234 | 33.64        |
| 42-43                                                            | 67 652  | 609   | 9.01         | 28.99     | 67 347 | 110.59    | 1 961 281 | 34.49        |
| 43-44                                                            | 67 043  | 614   | 9.16         | 28.25     | 66 736 | 108.69    | 1 893 934 | 35.40        |
| 44-45                                                            | 66 429  | 617   | 9.29         | 27.51     | 66 120 | 107.16    | 1 827 198 | 36.35        |



## THE STATE OF INDIANA: 1901.

## TABLE 39

REPORTED DEATHS IN 1900 (17,284), IN 1901 (17,108), AND IN 1902 (15,825).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE<br>INTERVAL. | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                  |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
|                  | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 65 812 | 623   | 9.46         | 26.76     | 65 500 | 105.14    | 1 761 078 | 37.37        |
| 46-47                                                                      | 65 189 | 629   | 9.66         | 26.01     | 64 874 | 103.14    | 1 695 578 | 38.45        |
| 47-48                                                                      | 64 560 | 610   | 9.91         | 25.26     | 64 240 | 100.38    | 1 630 704 | 39.59        |
| 48-49                                                                      | 63 920 | 653   | 10.21        | 24.51     | 63 591 | 97.39     | 1 566 464 | 40.80        |
| 49-50                                                                      | 63 267 | 667   | 10.56        | 23.75     | 62 934 | 94.35     | 1 502 870 | 42.11        |
| 50-51                                                                      | 62 600 | 686   | 10.95        | 23.00     | 62 257 | 90.75     | 1 439 936 | 43.48        |
| 51-52                                                                      | 61 914 | 704   | 11.38        | 22.25     | 61 562 | 87.45     | 1 377 679 | 44.94        |
| 52-53                                                                      | 61 210 | 732   | 11.95        | 21.50     | 60 844 | 83.12     | 1 316 117 | 46.51        |
| 53-54                                                                      | 60 478 | 768   | 12.71        | 20.76     | 60 091 | 78.25     | 1 255 273 | 48.17        |
| 54-55                                                                      | 59 710 | 815   | 13.65        | 20.02     | 59 302 | 72.76     | 1 195 179 | 49.95        |
| 55-56                                                                      | 58 895 | 865   | 14.68        | 19.29     | 58 462 | 67.59     | 1 135 877 | 51.84        |
| 56-57                                                                      | 58 030 | 918   | 15.82        | 18.57     | 57 571 | 62.71     | 1 077 415 | 53.85        |
| 57-58                                                                      | 57 112 | 973   | 17.01        | 17.86     | 56 625 | 58.20     | 1 019 844 | 55.99        |
| 58-59                                                                      | 56 139 | 1 028 | 18.31        | 17.16     | 55 625 | 54.11     | 963 219   | 58.28        |
| 59-60                                                                      | 55 111 | 1 083 | 19.66        | 16.47     | 54 569 | 50.39     | 907 594   | 60.72        |
| 60-61                                                                      | 54 028 | 1 144 | 21.17        | 15.79     | 53 456 | 46.73     | 853 025   | 63.33        |
| 61-62                                                                      | 52 884 | 1 210 | 22.87        | 15.12     | 52 279 | 43.21     | 799 569   | 66.14        |
| 62-63                                                                      | 51 671 | 1 278 | 24.73        | 14.46     | 51 035 | 39.93     | 747 290   | 69.16        |
| 63-64                                                                      | 50 396 | 1 346 | 26.72        | 13.82     | 49 723 | 36.91     | 696 255   | 72.36        |
| 64-65                                                                      | 49 050 | 1 414 | 28.83        | 13.18     | 48 343 | 34.19     | 646 532   | 75.87        |
| 65-66                                                                      | 47 636 | 1 480 | 31.06        | 12.56     | 46 896 | 31.69     | 598 189   | 79.62        |
| 66-67                                                                      | 46 156 | 1 539 | 33.35        | 11.91     | 45 387 | 29.49     | 551 293   | 83.75        |
| 67-68                                                                      | 44 617 | 1 611 | 36.10        | 11.34     | 43 812 | 27.20     | 505 906   | 88.18        |
| 68-69                                                                      | 43 006 | 1 706 | 39.68        | 10.74     | 42 153 | 24.71     | 462 094   | 93.11        |
| 69-70                                                                      | 41 300 | 1 823 | 44.14        | 10.17     | 40 389 | 22.16     | 419 941   | 98.33        |
| 70-71                                                                      | 39 477 | 1 940 | 49.14        | 9.61      | 38 507 | 19.85     | 379 552   | 104.06       |
| 71-72                                                                      | 37 537 | 2 062 | 54.94        | 9.09      | 36 506 | 17.70     | 341 015   | 110.01       |
| 72-73                                                                      | 35 475 | 2 171 | 61.21        | 8.58      | 34 389 | 15.84     | 304 539   | 116.55       |
| 73-74                                                                      | 33 301 | 2 244 | 67.37        | 8.11      | 32 182 | 14.34     | 270 150   | 123.30       |
| 74-75                                                                      | 31 060 | 2 279 | 73.39        | 7.66      | 29 920 | 13.13     | 237 968   | 130.55       |
| 75-76                                                                      | 28 781 | 2 308 | 80.18        | 7.23      | 27 627 | 11.97     | 208 018   | 138.31       |
| 76-77                                                                      | 26 473 | 2 320 | 87.63        | 6.82      | 25 313 | 10.91     | 180 421   | 146.63       |
| 77-78                                                                      | 24 153 | 2 312 | 95.73        | 6.42      | 22 997 | 9.95      | 155 108   | 155.76       |
| 78-79                                                                      | 21 811 | 2 283 | 104.51       | 6.05      | 20 700 | 9.07      | 132 111   | 165.29       |
| 79-80                                                                      | 19 558 | 2 229 | 113.99       | 5.70      | 18 444 | 8.27      | 111 411   | 175.44       |
| 80-81                                                                      | 17 329 | 2 150 | 124.07       | 5.36      | 16 254 | 7.56      | 92 967    | 186.57       |
| 81-82                                                                      | 15 179 | 2 044 | 134.67       | 5.05      | 14 157 | 6.93      | 76 713    | 198.02       |
| 82-83                                                                      | 13 135 | 1 914 | 145.68       | 4.76      | 12 178 | 6.36      | 62 556    | 210.08       |
| 83-84                                                                      | 11 221 | 1 762 | 157.01       | 4.49      | 10 310 | 5.87      | 50 378    | 222.72       |
| 84-85                                                                      | 9 459  | 1 595 | 168.66       | 4.23      | 8 662  | 5.43      | 40 038    | 236.41       |
| 85-86                                                                      | 7 864  | 1 421 | 180.70       | 3.99      | 7 153  | 5.03      | 31 376    | 250.63       |
| 86-87                                                                      | 6 443  | 1 215 | 193.24       | 3.76      | 5 820  | 4.67      | 24 223    | 265.96       |
| 87-88                                                                      | 5 198  | 1 073 | 206.44       | 3.54      | 4 661  | 4.34      | 18 403    | 282.49       |
| 88-89                                                                      | 4 125  | 909   | 220.44       | 3.33      | 3 670  | 4.04      | 13 712    | 300.30       |
| 89-90                                                                      | 3 216  | 757   | 235.36       | 3.13      | 2 837  | 3.75      | 10 072    | 319.49       |
| 90-91                                                                      | 2 459  | 618   | 251.26       | 2.94      | 2 150  | 3.48      | 7 235     | 340.14       |
| 91-92                                                                      | 1 811  | 491   | 268.17       | 2.76      | 1 591  | 3.23      | 5 085     | 362.32       |
| 92-93                                                                      | 1 347  | 385   | 286.06       | 2.59      | 1 155  | 3.00      | 3 491     | 386.10       |
| 93-94                                                                      | 962    | 293   | 304.96       | 2.43      | 815    | 2.78      | 2 336     | 411.52       |
| 94-95                                                                      | 669    | 218   | 324.88       | 2.28      | 560    | 2.58      | 1 521     | 438.60       |
| 95-96                                                                      | 451    | 156   | 345.87       | 2.13      | 373    | 2.39      | 961       | 469.48       |
| 96-97                                                                      | 293    | 108   | 367.97       | 2.00      | 241    | 2.22      | 588       | 500.00       |
| 97-98                                                                      | 187    | 73    | 391.17       | 1.87      | 150    | 2.06      | 347       | 534.76       |
| 98-99                                                                      | 114    | 48    | 415.63       | 1.74      | 90     | 1.91      | 197       | 574.71       |
| 99-100                                                                     | 66     | 29    | 441.36       | 1.63      | 52     | 1.77      | 107       | 613.50       |
| 100-101                                                                    | 37     | 17    | 468.38       | 1.52      | 28     | 1.64      | 55        | 637.89       |
| 101-102                                                                    | 20     | 10    | 496.73       | 1.41      | 15     | 1.51      | 27        | 709.22       |
| 102-103                                                                    | 10     | 5     | 526.42       | 1.32      | 7      | 1.40      | 12        | 757.58       |
| 103-104                                                                    | 5      | 3     | 557.47       | 1.23      | 3      | 1.29      | 5         | 813.01       |
| 104-105                                                                    | 2      | 1     | 589.87       | 1.14      | 1      | 1.20      | 2         | 877.19       |
| 105-106                                                                    | 1      | 1     | 623.63       | 1.06      | 1      | 1.10      | 1         | 943.40       |

TABLE 40

## LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (1,319,479), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE<br>INTERVAL.                                    | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            |         |       | Monthly rate. | In years. |       | Per month. |           | Annual rate. |
| 0-1                                                                | 100 000 | 3 635 | 36.35         | 56.16     | 8 106 | 26.76      | 5 615 867 | 17.81        |
| 1-2                                                                | 96 363  | 766   | 7.95          | 58.19     | 7 998 | 125.28     | 5 607 761 | 17.19        |
| 2-3                                                                | 95 599  | 572   | 5.98          | 58.58     | 7 943 | 166.68     | 5 599 763 | 17.07        |
| 3-4                                                                | 95 027  | 478   | 5.04          | 58.84     | 7 899 | 198.36     | 5 591 820 | 17.00        |
| 4-5                                                                | 94 549  | 417   | 4.40          | 59.06     | 7 862 | 226.20     | 5 583 921 | 16.93        |
| 5-6                                                                | 94 132  | 376   | 3.99          | 59.24     | 7 829 | 249.84     | 5 576 059 | 16.88        |
| 6-7                                                                | 93 756  | 341   | 3.64          | 59.39     | 7 799 | 274.44     | 5 568 230 | 16.84        |
| 7-8                                                                | 93 415  | 315   | 3.37          | 59.52     | 7 771 | 296.04     | 5 560 431 | 16.80        |
| 8-9                                                                | 93 100  | 296   | 3.18          | 59.61     | 7 746 | 314.04     | 5 552 660 | 16.77        |
| 9-10                                                               | 92 801  | 287   | 3.09          | 59.75     | 7 722 | 322.92     | 5 544 911 | 16.74        |
| 10-11                                                              | 92 517  | 281   | 3.01          | 59.85     | 7 698 | 328.80     | 5 537 192 | 16.71        |
| 11-12                                                              | 92 236  | 277   | 3.00          | 59.95     | 7 675 | 332.52     | 5 529 494 | 16.68        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |       |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 8 041 | 80.11        | 56.16     | 94 048 | 11.70     | 5 615 867 | 17.81        |
| 1-2                                                              | 91 959  | 1 895 | 20.61        | 60.05     | 90 811 | 47.94     | 5 521 819 | 16.65        |
| 2-3                                                              | 90 064  | 846   | 9.40         | 60.30     | 89 616 | 105.93    | 5 430 978 | 16.53        |
| 3-4                                                              | 89 218  | 478   | 5.36         | 59.87     | 88 969 | 186.13    | 5 341 362 | 16.70        |
| 4-5                                                              | 88 740  | 383   | 4.31         | 59.19     | 88 541 | 231.18    | 5 252 393 | 16.89        |
| 5-6                                                              | 88 357  | 314   | 3.56         | 58.44     | 88 200 | 280.89    | 5 163 852 | 17.11        |
| 6-7                                                              | 88 043  | 257   | 2.92         | 57.65     | 87 914 | 342.08    | 5 075 652 | 17.35        |
| 7-8                                                              | 87 786  | 213   | 2.43         | 56.82     | 87 679 | 411.64    | 4 987 738 | 17.60        |
| 8-9                                                              | 87 573  | 185   | 2.10         | 55.95     | 87 480 | 472.86    | 4 900 059 | 17.87        |
| 9-10                                                             | 87 388  | 168   | 1.93         | 55.07     | 87 304 | 519.67    | 4 812 579 | 18.16        |
| 10-11                                                            | 87 220  | 165   | 1.90         | 54.18     | 87 137 | 528.10    | 4 725 275 | 18.46        |
| 11-12                                                            | 87 055  | 173   | 1.99         | 53.28     | 86 968 | 502.71    | 4 638 138 | 18.77        |
| 12-13                                                            | 86 882  | 190   | 2.19         | 52.38     | 86 787 | 456.77    | 4 551 170 | 19.09        |
| 13-14                                                            | 86 692  | 211   | 2.47         | 51.50     | 86 585 | 401.60    | 4 464 383 | 19.42        |
| 14-15                                                            | 86 478  | 244   | 2.82         | 50.62     | 86 356 | 353.92    | 4 377 798 | 19.76        |
| 15-16                                                            | 86 234  | 278   | 3.22         | 49.77     | 86 095 | 309.69    | 4 291 442 | 20.09        |
| 16-17                                                            | 85 956  | 312   | 3.63         | 48.92     | 85 800 | 275.00    | 4 205 347 | 20.44        |
| 17-18                                                            | 85 644  | 347   | 4.05         | 48.10     | 85 471 | 246.31    | 4 119 547 | 20.79        |
| 18-19                                                            | 85 297  | 382   | 4.47         | 47.29     | 85 106 | 222.79    | 4 034 076 | 21.15        |
| 19-20                                                            | 84 915  | 417   | 4.91         | 46.50     | 84 707 | 203.13    | 3 948 970 | 21.51        |
| 20-21                                                            | 84 498  | 453   | 5.37         | 45.73     | 84 272 | 186.03    | 3 864 263 | 21.87        |
| 21-22                                                            | 84 045  | 482   | 5.73         | 44.98     | 83 801 | 173.87    | 3 779 991 | 22.23        |
| 22-23                                                            | 83 563  | 496   | 5.93         | 44.23     | 83 315 | 167.97    | 3 696 187 | 22.61        |
| 23-24                                                            | 83 067  | 500   | 6.02         | 43.49     | 82 817 | 165.63    | 3 612 872 | 22.99        |
| 24-25                                                            | 82 567  | 505   | 6.12         | 42.75     | 82 314 | 163.00    | 3 530 055 | 23.39        |
| 25-26                                                            | 82 062  | 508   | 6.19         | 42.01     | 81 808 | 161.04    | 3 447 741 | 23.80        |
| 26-27                                                            | 81 551  | 511   | 6.26         | 41.27     | 81 298 | 159.10    | 3 365 933 | 24.23        |
| 27-28                                                            | 81 043  | 514   | 6.34         | 40.53     | 80 786 | 157.17    | 3 284 635 | 24.67        |
| 28-29                                                            | 80 529  | 517   | 6.42         | 39.79     | 80 271 | 155.26    | 3 203 849 | 25.13        |
| 29-30                                                            | 80 012  | 520   | 6.49         | 39.04     | 79 752 | 153.37    | 3 123 578 | 25.61        |
| 30-31                                                            | 79 492  | 520   | 6.55         | 38.29     | 79 232 | 152.37    | 3 043 826 | 26.12        |
| 31-32                                                            | 78 972  | 521   | 6.60         | 37.54     | 78 711 | 151.08    | 2 964 594 | 26.61        |
| 32-33                                                            | 78 451  | 524   | 6.67         | 36.79     | 78 189 | 149.22    | 2 885 883 | 27.18        |
| 33-34                                                            | 77 927  | 524   | 6.73         | 36.03     | 77 665 | 148.22    | 2 807 694 | 27.75        |
| 34-35                                                            | 77 403  | 526   | 6.79         | 35.27     | 77 140 | 146.65    | 2 730 029 | 28.35        |
| 35-36                                                            | 76 877  | 527   | 6.85         | 34.51     | 76 614 | 145.38    | 2 652 889 | 28.98        |
| 36-37                                                            | 76 350  | 529   | 6.93         | 33.74     | 76 086 | 143.83    | 2 576 275 | 29.64        |
| 37-38                                                            | 75 821  | 533   | 7.03         | 32.97     | 75 555 | 141.75    | 2 500 189 | 30.33        |
| 38-39                                                            | 75 288  | 538   | 7.15         | 32.20     | 75 019 | 139.44    | 2 424 634 | 31.06        |
| 39-40                                                            | 74 750  | 544   | 7.29         | 31.43     | 74 478 | 136.91    | 2 349 615 | 31.82        |
| 40-41                                                            | 74 206  | 553   | 7.45         | 30.66     | 73 929 | 133.69    | 2 275 137 | 32.62        |
| 41-42                                                            | 73 653  | 561   | 7.61         | 29.89     | 73 372 | 130.79    | 2 201 208 | 33.46        |
| 42-43                                                            | 73 092  | 567   | 7.76         | 29.11     | 72 808 | 128.41    | 2 127 836 | 34.35        |
| 43-44                                                            | 72 525  | 575   | 7.92         | 28.34     | 72 237 | 125.63    | 2 055 028 | 35.29        |
| 44-45                                                            | 71 950  | 584   | 8.11         | 27.56     | 71 658 | 122.70    | 1 982 791 | 36.28        |

## THE STATE OF INDIANA: 1910.

## TABLE 40

REPORTED DEATHS IN 1909 (16,255), IN 1910 (17,197), AND IN 1911 (16,493).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 71 366 | 594   | 8.33         | 26.78     | 71 069 | 119.64    | 1 911 133 | 37.34        |
| 46-47                                                                      | 70 772 | 613   | 8.66         | 26.00     | 70 466 | 114.95    | 1 840 064 | 38.46        |
| 47-48                                                                      | 70 159 | 643   | 9.16         | 25.22     | 69 838 | 108.61    | 1 769 598 | 39.65        |
| 48-49                                                                      | 69 516 | 678   | 9.76         | 24.45     | 69 177 | 102.03    | 1 699 760 | 40.90        |
| 49-50                                                                      | 68 838 | 714   | 10.37        | 23.69     | 68 481 | 95.91     | 1 630 583 | 42.21        |
| 50-51                                                                      | 68 124 | 750   | 11.01        | 22.93     | 67 749 | 90.33     | 1 562 102 | 43.61        |
| 51-52                                                                      | 67 374 | 783   | 11.62        | 22.18     | 66 983 | 85.55     | 1 494 353 | 45.09        |
| 52-53                                                                      | 66 591 | 812   | 12.20        | 21.43     | 66 185 | 81.51     | 1 427 370 | 46.66        |
| 53-54                                                                      | 65 779 | 844   | 12.83        | 20.69     | 65 357 | 77.44     | 1 361 185 | 48.33        |
| 54-55                                                                      | 64 935 | 881   | 13.57        | 19.96     | 64 495 | 73.21     | 1 295 828 | 50.10        |
| 55-56                                                                      | 64 054 | 924   | 14.43        | 19.22     | 63 592 | 68.82     | 1 231 333 | 52.03        |
| 56-57                                                                      | 63 130 | 975   | 15.44        | 18.50     | 62 642 | 64.25     | 1 167 741 | 54.05        |
| 57-58                                                                      | 62 155 | 1 031 | 16.58        | 17.78     | 61 640 | 59.79     | 1 105 099 | 56.24        |
| 58-59                                                                      | 61 124 | 1 090 | 17.84        | 17.07     | 60 579 | 55.58     | 1 043 459 | 58.58        |
| 59-60                                                                      | 60 034 | 1 153 | 19.24        | 16.37     | 59 457 | 51.48     | 982 880   | 61.09        |
| 60-61                                                                      | 58 879 | 1 224 | 20.79        | 15.68     | 58 267 | 47.60     | 923 423   | 63.78        |
| 61-62                                                                      | 57 655 | 1 301 | 22.57        | 15.01     | 57 004 | 43.82     | 865 156   | 66.62        |
| 62-63                                                                      | 56 374 | 1 388 | 24.63        | 14.34     | 55 660 | 40.10     | 808 152   | 69.74        |
| 63-64                                                                      | 54 966 | 1 478 | 26.89        | 13.69     | 54 237 | 36.69     | 752 492   | 73.05        |
| 64-65                                                                      | 53 488 | 1 563 | 29.23        | 13.05     | 52 766 | 33.72     | 698 265   | 76.63        |
| 65-66                                                                      | 51 925 | 1 643 | 31.63        | 12.43     | 51 103 | 31.10     | 645 559   | 80.45        |
| 66-67                                                                      | 50 282 | 1 728 | 34.38        | 11.82     | 49 418 | 28.60     | 594 456   | 84.60        |
| 67-68                                                                      | 48 554 | 1 835 | 37.80        | 11.23     | 47 636 | 25.96     | 545 038   | 89.05        |
| 68-69                                                                      | 46 719 | 1 961 | 41.97        | 10.65     | 45 738 | 23.32     | 497 402   | 93.90        |
| 69-70                                                                      | 44 758 | 2 086 | 46.62        | 10.09     | 43 715 | 20.96     | 451 664   | 99.11        |
| 70-71                                                                      | 42 672 | 2 220 | 52.01        | 9.56      | 41 562 | 18.72     | 407 949   | 104.60       |
| 71-72                                                                      | 40 452 | 2 331 | 57.64        | 9.06      | 39 287 | 16.85     | 366 387   | 110.38       |
| 72-73                                                                      | 38 121 | 2 396 | 62.84        | 8.58      | 36 923 | 15.41     | 327 100   | 116.55       |
| 73-74                                                                      | 35 725 | 2 415 | 67.61        | 8.12      | 34 518 | 14.29     | 290 177   | 123.15       |
| 74-75                                                                      | 33 310 | 2 426 | 72.85        | 7.68      | 32 097 | 13.23     | 255 659   | 130.21       |
| 75-76                                                                      | 30 884 | 2 420 | 78.35        | 7.24      | 29 674 | 12.26     | 223 562   | 138.12       |
| 76-77                                                                      | 28 461 | 2 404 | 84.16        | 6.81      | 27 262 | 11.34     | 193 888   | 146.84       |
| 77-78                                                                      | 26 060 | 2 396 | 91.93        | 6.39      | 24 862 | 10.38     | 166 626   | 156.49       |
| 78-79                                                                      | 23 664 | 2 394 | 101.17       | 5.99      | 22 467 | 9.38      | 141 761   | 166.94       |
| 79-80                                                                      | 21 270 | 2 384 | 112.05       | 5.61      | 20 078 | 8.42      | 119 297   | 178.25       |
| 80-81                                                                      | 18 886 | 2 376 | 125.83       | 5.25      | 17 698 | 7.45      | 99 219    | 190.48       |
| 81-82                                                                      | 16 510 | 2 325 | 140.81       | 4.91      | 15 318 | 6.60      | 81 521    | 202.43       |
| 82-83                                                                      | 14 185 | 2 180 | 153.69       | 4.66      | 13 095 | 6.01      | 66 173    | 214.59       |
| 83-84                                                                      | 12 005 | 1 963 | 163.52       | 4.42      | 11 024 | 5.62      | 53 078    | 226.24       |
| 84-85                                                                      | 10 012 | 1 753 | 174.60       | 4.19      | 9 166  | 5.23      | 42 054    | 238.66       |
| 85-86                                                                      | 8 289  | 1 542 | 186.05       | 3.97      | 7 518  | 4.87      | 32 888    | 251.89       |
| 86-87                                                                      | 6 747  | 1 333 | 197.56       | 3.76      | 6 080  | 4.36      | 25 370    | 265.96       |
| 87-88                                                                      | 5 414  | 1 132 | 209.02       | 3.56      | 4 848  | 4.28      | 19 290    | 280.90       |
| 88-89                                                                      | 4 282  | 944   | 220.61       | 3.37      | 3 810  | 4.03      | 14 442    | 296.74       |
| 89-90                                                                      | 3 338  | 777   | 232.59       | 3.19      | 2 949  | 3.80      | 10 632    | 313.48       |
| 90-91                                                                      | 2 561  | 628   | 245.44       | 3.00      | 2 247  | 3.37      | 7 683     | 333.33       |
| 91-92                                                                      | 1 933  | 502   | 259.77       | 2.81      | 1 682  | 3.35      | 5 436     | 355.87       |
| 92-93                                                                      | 1 431  | 396   | 276.36       | 2.62      | 1 233  | 3.12      | 3 754     | 381.68       |
| 93-94                                                                      | 1 035  | 306   | 295.90       | 2.44      | 882    | 2.88      | 2 521     | 409.84       |
| 94-95                                                                      | 729    | 233   | 318.91       | 2.25      | 613    | 2.64      | 1 639     | 444.44       |
| 95-96                                                                      | 496    | 171   | 345.53       | 2.07      | 411    | 2.39      | 1 026     | 483.09       |
| 96-97                                                                      | 325    | 122   | 375.49       | 1.90      | 264    | 2.16      | 615       | 526.32       |
| 97-98                                                                      | 203    | 83    | 408.20       | 1.74      | 161    | 1.95      | 351       | 574.71       |
| 98-99                                                                      | 120    | 53    | 443.03       | 1.59      | 93     | 1.76      | 190       | 628.93       |
| 99-100                                                                     | 67     | 32    | 479.30       | 1.46      | 51     | 1.59      | 97        | 684.93       |
| 100-101                                                                    | 35     | 18    | 516.43       | 1.33      | 26     | 1.44      | 46        | 751.88       |
| 101-102                                                                    | 17     | 9     | 554.12       | 1.23      | 12     | 1.30      | 20        | 813.01       |
| 102-103                                                                    | 8      | 5     | 592.29       | 1.13      | 5      | 1.19      | 8         | 884.96       |
| 103-104                                                                    | 3      | 2     | 630.97       | 1.04      | 2      | 1.08      | 3         | 961.54       |
| 104-105                                                                    | 1      | 1     | 670.17       | .96       | 1      | .99       | 1         | .....        |

TABLE 41

## LIFE TABLE FOR MALES IN THE

BASED ON THE ESTIMATED POPULATION DECEMBER 1, 1889 (1,073,721), AND ON

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE INTERVAL.                              | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                   | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                       | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |              |
| 1-2                                                                |  |  |               |           |  |            |              |
| 2-3                                                                |  |  |               |           |  |            |              |
| 3-4                                                                |  |  |               |           |  |            |              |
| 4-5                                                                |  |  |               |           |  |            |              |
| 5-6                                                                |  |  |               |           |  |            |              |
| 6-7                                                                |  |  |               |           |  |            |              |
| 7-8                                                                |  |  |               |           |  |            |              |
| 8-9                                                                |  |  |               |           |  |            |              |
| 9-10                                                               |  |  |               |           |  |            |              |
| 10-11                                                              |  |  |               |           |  |            |              |
| 11-12                                                              |  |  |               |           |  |            |              |

This life table is based on the estimated population December 31, 1889, and reported deaths for the census year ended May 31, 1890, shown in Table 179, page 470. The reported deaths are not in exact agreement with those published in the Massachusetts Registration Reports, but the differences are small except for the age under 1 year.

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|--------------|
| Years.                                                           | 100 000 |        | Annual rate. | In years. |        | Per year. | Annual rate. |
| 0-1                                                              | 100 000 | 16 777 | 167.77       | 42.50     | 87 921 | 5.21      | 23.53        |
| 1-2                                                              | 83 223  | 4 074  | 48.96        | 50.02     | 80 819 | 19.84     | 19.99        |
| 2-3                                                              | 79 119  | 2 071  | 26.17        | 51.57     | 78 051 | 37.69     | 19.39        |
| 3-4                                                              | 77 078  | 1 343  | 17.42        | 51.94     | 76 379 | 56.87     | 19.25        |
| 4-5                                                              | 75 735  | 1 057  | 13.95        | 51.86     | 75 186 | 71.13     | 19.28        |
| 5-6                                                              | 74 678  | 826    | 11.07        | 51.58     | 74 265 | 89.91     | 19.39        |
| 6-7                                                              | 73 852  | 615    | 8.73         | 51.15     | 73 530 | 114.00    | 19.55        |
| 7-8                                                              | 73 207  | 505    | 6.90         | 50.60     | 72 955 | 144.47    | 19.76        |
| 8-9                                                              | 72 702  | 402    | 5.53         | 49.95     | 72 501 | 180.35    | 20.02        |
| 9-10                                                             | 72 300  | 331    | 4.58         | 49.22     | 72 134 | 217.93    | 20.32        |
| 10-11                                                            | 71 969  | 288    | 3.99         | 48.45     | 71 825 | 249.39    | 20.61        |
| 11-12                                                            | 71 681  | 267    | 3.72         | 47.64     | 71 548 | 267.97    | 20.99        |
| 12-13                                                            | 71 411  | 266    | 3.73         | 46.82     | 71 281 | 267.97    | 21.36        |
| 13-14                                                            | 71 148  | 282    | 3.96         | 45.99     | 71 007 | 251.80    | 21.74        |
| 14-15                                                            | 70 866  | 309    | 4.37         | 45.17     | 70 712 | 228.84    | 22.14        |
| 15-16                                                            | 70 557  | 346    | 4.90         | 44.37     | 70 384 | 203.42    | 22.54        |
| 16-17                                                            | 70 211  | 387    | 5.52         | 43.58     | 70 018 | 180.93    | 22.95        |
| 17-18                                                            | 69 824  | 429    | 6.14         | 42.82     | 69 610 | 162.26    | 23.35        |
| 18-19                                                            | 69 395  | 466    | 6.71         | 42.08     | 69 162 | 148.12    | 23.76        |
| 19-20                                                            | 68 929  | 497    | 7.22         | 41.36     | 68 680 | 138.19    | 24.18        |
| 20-21                                                            | 68 432  | 531    | 7.75         | 40.66     | 68 167 | 128.37    | 24.59        |
| 21-22                                                            | 67 901  | 562    | 8.28         | 39.97     | 67 620 | 120.32    | 25.02        |
| 22-23                                                            | 67 339  | 585    | 8.69         | 39.30     | 67 047 | 114.61    | 25.45        |
| 23-24                                                            | 66 751  | 597    | 8.95         | 38.64     | 66 455 | 111.31    | 25.88        |
| 24-25                                                            | 66 157  | 603    | 9.12         | 37.99     | 65 855 | 109.21    | 26.32        |
| 25-26                                                            | 65 554  | 609    | 9.29         | 37.33     | 65 249 | 107.14    | 26.79        |
| 26-27                                                            | 64 945  | 615    | 9.47         | 36.68     | 64 637 | 105.10    | 27.26        |
| 27-28                                                            | 64 330  | 619    | 9.62         | 36.02     | 64 021 | 103.43    | 27.76        |
| 28-29                                                            | 63 711  | 621    | 9.75         | 35.37     | 63 401 | 102.10    | 28.27        |
| 29-30                                                            | 63 090  | 621    | 9.86         | 34.71     | 62 779 | 101.09    | 28.81        |
| 30-31                                                            | 62 469  | 622    | 9.96         | 34.05     | 62 158 | 99.93     | 29.37        |
| 31-32                                                            | 61 847  | 622    | 10.04        | 33.39     | 61 536 | 98.93     | 29.95        |
| 32-33                                                            | 61 225  | 622    | 10.17        | 32.72     | 60 914 | 97.93     | 30.56        |
| 33-34                                                            | 60 603  | 628    | 10.36        | 32.05     | 60 289 | 96.00     | 31.20        |
| 34-35                                                            | 59 975  | 635    | 10.60        | 31.39     | 59 657 | 93.95     | 31.86        |
| 35-36                                                            | 59 340  | 644    | 10.85        | 30.72     | 59 018 | 91.64     | 32.55        |
| 36-37                                                            | 58 696  | 653    | 11.13        | 30.05     | 58 369 | 89.39     | 33.28        |
| 37-38                                                            | 58 043  | 661    | 11.39        | 29.38     | 57 712 | 87.31     | 34.04        |
| 38-39                                                            | 57 382  | 667    | 11.62        | 28.71     | 57 048 | 85.53     | 34.83        |
| 39-40                                                            | 56 715  | 672    | 11.84        | 28.04     | 56 379 | 83.90     | 35.66        |
| 40-41                                                            | 56 043  | 677    | 12.09        | 27.37     | 55 705 | 82.28     | 36.54        |
| 41-42                                                            | 55 366  | 684    | 12.36        | 26.70     | 55 024 | 80.44     | 37.45        |
| 42-43                                                            | 54 682  | 693    | 12.67        | 26.03     | 54 335 | 78.41     | 38.42        |
| 43-44                                                            | 53 989  | 705    | 13.05        | 25.36     | 53 636 | 76.08     | 39.43        |
| 44-45                                                            | 53 284  | 719    | 13.49        | 24.69     | 52 925 | 73.61     | 40.50        |

## STATE OF MASSACHUSETTS: 1890.

## TABLE 41

THE REPORTED DEATHS IN THE CENSUS YEAR ENDED MAY 31, 1890 (21,545).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE<br>INTERVAL. | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                  |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
|                  | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 52 565 | 734   | 13.96        | 24.02     | 52 198 | 71.11     | 1 262 509 | 41.63        |
| 46-47                                                                      | 51 831 | 749   | 14.45        | 23.35     | 51 457 | 68.70     | 1 210 311 | 42.83        |
| 47-48                                                                      | 51 082 | 768   | 15.03        | 22.69     | 50 698 | 66.01     | 1 158 854 | 44.07        |
| 48-49                                                                      | 50 314 | 792   | 15.75        | 22.02     | 49 918 | 63.03     | 1 108 156 | 45.41        |
| 49-50                                                                      | 49 522 | 820   | 16.56        | 21.37     | 49 112 | 59.89     | 1 058 238 | 46.79        |
| 50-51                                                                      | 48 702 | 848   | 17.41        | 20.72     | 48 278 | 56.93     | 1 009 126 | 48.26        |
| 51-52                                                                      | 47 854 | 875   | 18.30        | 20.08     | 47 417 | 54.19     | 960 818   | 49.80        |
| 52-53                                                                      | 46 979 | 905   | 19.27        | 19.44     | 46 526 | 51.41     | 913 431   | 51.44        |
| 53-54                                                                      | 46 074 | 939   | 20.38        | 18.82     | 45 604 | 48.57     | 866 905   | 53.13        |
| 54-55                                                                      | 45 135 | 979   | 21.68        | 18.20     | 44 646 | 45.60     | 821 301   | 54.95        |
| 55-56                                                                      | 44 156 | 1 024 | 23.19        | 17.59     | 43 644 | 42.62     | 776 655   | 56.85        |
| 56-57                                                                      | 43 132 | 1 080 | 25.06        | 16.99     | 42 592 | 39.44     | 733 011   | 58.86        |
| 57-58                                                                      | 42 052 | 1 126 | 26.76        | 16.42     | 41 489 | 36.85     | 690 419   | 60.90        |
| 58-59                                                                      | 40 926 | 1 137 | 27.79        | 15.86     | 40 358 | 35.50     | 648 930   | 63.05        |
| 59-60                                                                      | 39 789 | 1 126 | 28.30        | 15.29     | 39 226 | 34.84     | 608 572   | 65.40        |
| 60-61                                                                      | 38 663 | 1 116 | 28.87        | 14.73     | 38 105 | 34.14     | 569 346   | 67.89        |
| 61-62                                                                      | 37 547 | 1 100 | 29.28        | 14.15     | 36 997 | 33.63     | 531 241   | 70.67        |
| 62-63                                                                      | 36 447 | 1 106 | 30.36        | 13.56     | 35 894 | 32.45     | 494 244   | 73.75        |
| 63-64                                                                      | 35 341 | 1 156 | 32.72        | 12.97     | 34 763 | 30.07     | 458 350   | 77.10        |
| 64-65                                                                      | 34 185 | 1 239 | 36.23        | 12.39     | 33 565 | 27.09     | 423 587   | 80.71        |
| 65-66                                                                      | 32 946 | 1 319 | 40.03        | 11.84     | 32 287 | 24.48     | 390 022   | 84.46        |
| 66-67                                                                      | 31 627 | 1 375 | 43.17        | 11.31     | 30 940 | 22.50     | 357 735   | 88.42        |
| 67-68                                                                      | 30 252 | 1 415 | 46.77        | 10.80     | 29 545 | 20.88     | 326 795   | 92.59        |
| 68-69                                                                      | 28 837 | 1 441 | 49.99        | 10.31     | 28 117 | 19.51     | 297 250   | 96.99        |
| 69-70                                                                      | 27 396 | 1 458 | 53.21        | 9.82      | 26 667 | 18.29     | 269 133   | 101.83       |
| 70-71                                                                      | 25 938 | 1 470 | 56.66        | 9.35      | 25 203 | 17.14     | 242 466   | 106.95       |
| 71-72                                                                      | 24 468 | 1 484 | 60.66        | 8.88      | 23 726 | 15.99     | 217 263   | 112.61       |
| 72-73                                                                      | 22 984 | 1 505 | 65.49        | 8.42      | 22 232 | 14.77     | 193 537   | 118.76       |
| 73-74                                                                      | 21 479 | 1 531 | 71.28        | 7.98      | 20 714 | 13.53     | 171 305   | 125.31       |
| 74-75                                                                      | 19 948 | 1 555 | 77.97        | 7.55      | 19 170 | 12.33     | 150 591   | 132.45       |
| 75-76                                                                      | 18 393 | 1 568 | 85.26        | 7.15      | 17 609 | 11.23     | 131 421   | 139.86       |
| 76-77                                                                      | 16 825 | 1 561 | 92.76        | 6.76      | 16 044 | 10.28     | 113 812   | 147.93       |
| 77-78                                                                      | 15 264 | 1 528 | 100.13       | 6.41      | 14 500 | 9.49      | 97 768    | 156.01       |
| 78-79                                                                      | 13 736 | 1 473 | 107.20       | 6.06      | 12 999 | 8.82      | 83 268    | 165.02       |
| 79-80                                                                      | 12 263 | 1 398 | 114.06       | 5.73      | 11 564 | 8.27      | 70 269    | 174.52       |
| 80-81                                                                      | 10 865 | 1 316 | 121.07       | 5.40      | 10 207 | 7.76      | 58 705    | 185.19       |
| 81-82                                                                      | 9 519  | 1 230 | 128.80       | 5.08      | 8 934  | 7.26      | 48 498    | 196.85       |
| 82-83                                                                      | 8 319  | 1 147 | 137.85       | 4.76      | 7 746  | 6.75      | 39 564    | 210.08       |
| 83-84                                                                      | 7 172  | 1 066 | 148.70       | 4.44      | 6 639  | 6.23      | 31 818    | 225.23       |
| 84-85                                                                      | 6 106  | 987   | 161.67       | 4.12      | 5 612  | 5.69      | 25 179    | 242.72       |
| 85-86                                                                      | 5 119  | 905   | 176.83       | 3.82      | 4 666  | 5.16      | 19 567    | 261.78       |
| 86-87                                                                      | 4 214  | 818   | 194.05       | 3.51      | 3 805  | 4.65      | 14 901    | 282.49       |
| 87-88                                                                      | 3 396  | 724   | 213.10       | 3.27      | 3 031  | 4.19      | 11 096    | 305.81       |
| 88-89                                                                      | 2 672  | 624   | 233.73       | 3.02      | 2 360  | 3.78      | 8 062     | 331.13       |
| 89-90                                                                      | 2 048  | 524   | 255.77       | 2.79      | 1 786  | 3.41      | 5 702     | 358.42       |
| 90-91                                                                      | 1 524  | 425   | 279.12       | 2.57      | 1 311  | 3.08      | 3 916     | 389.11       |
| 91-92                                                                      | 1 099  | 334   | 303.77       | 2.37      | 932    | 2.79      | 2 605     | 421.94       |
| 92-93                                                                      | 765    | 252   | 329.74       | 2.19      | 639    | 2.53      | 1 673     | 456.62       |
| 93-94                                                                      | 513    | 183   | 357.05       | 2.02      | 421    | 2.30      | 1 034     | 495.05       |
| 94-95                                                                      | 330    | 128   | 385.69       | 1.86      | 266    | 2.09      | 613       | 537.63       |
| 95-96                                                                      | 202    | 84    | 415.61       | 1.72      | 160    | 1.91      | 347       | 581.40       |
| 96-97                                                                      | 118    | 53    | 446.74       | 1.59      | 92     | 1.74      | 187       | 628.93       |
| 97-98                                                                      | 65     | 31    | 479.00       | 1.47      | 50     | 1.59      | 95        | 680.27       |
| 98-99                                                                      | 34     | 17    | 512.28       | 1.35      | 25     | 1.45      | 45        | 740.74       |
| 99-100                                                                     | 17     | 9     | 546.44       | 1.25      | 12     | 1.33      | 20        | 800.00       |
| 100-101                                                                    | 8      | 5     | 581.32       | 1.16      | 5      | 1.22      | 8         | 862.07       |
| 101-102                                                                    | 8      | 2     | 616.76       | 1.07      | 2      | 1.12      | 3         | 934.58       |
| 102-103                                                                    | 1      | 1     | 652.54       | .99       | 1      | 1.03      | 1         | .....        |

TABLE 42

## LIFE TABLE FOR MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (1,399,045), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE<br>INTERVAL. | Of 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                  |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
|                  | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                            | $d_x$                            | $1000/l_x$                                                                                    | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 15 878 | 158.78       | 46.07     | 88 568 | 5.58      | 4 607 267 | 21.71        |
| 1-2                                                              | 84 122  | 3 170  | 37.69        | 53.72     | 82 251 | 25.95     | 4 518 699 | 18.62        |
| 2-3                                                              | 80 952  | 1 403  | 17.33        | 51.80     | 80 208 | 57.17     | 4 436 418 | 18.25        |
| 3-4                                                              | 79 519  | 999    | 12.55        | 51.76     | 79 030 | 79.11     | 4 356 210 | 18.26        |
| 4-5                                                              | 78 550  | 709    | 9.04         | 54.45     | 78 181 | 110.27    | 4 277 210 | 18.37        |
| 5-6                                                              | 77 841  | 517    | 6.64         | 53.91     | 77 582 | 150.06    | 4 199 029 | 18.54        |
| 6-7                                                              | 77 324  | 423    | 5.47         | 53.30     | 77 112 | 182.30    | 4 121 447 | 18.76        |
| 7-8                                                              | 76 901  | 345    | 4.48         | 52.59     | 76 728 | 222.40    | 4 044 335 | 19.02        |
| 8-9                                                              | 76 556  | 283    | 3.70         | 51.83     | 76 411 | 270.01    | 3 967 607 | 19.29        |
| 9-10                                                             | 76 273  | 238    | 3.12         | 51.02     | 76 151 | 319.97    | 3 891 193 | 19.60        |
| 10-11                                                            | 76 035  | 208    | 2.74         | 50.17     | 75 931 | 365.05    | 3 815 039 | 19.93        |
| 11-12                                                            | 75 827  | 195    | 2.57         | 49.31     | 75 730 | 388.36    | 3 739 108 | 20.28        |
| 12-13                                                            | 75 632  | 191    | 2.57         | 48.44     | 75 535 | 389.36    | 3 663 378 | 20.64        |
| 13-14                                                            | 75 438  | 208    | 2.75         | 47.56     | 75 334 | 362.18    | 3 587 813 | 21.03        |
| 14-15                                                            | 75 230  | 230    | 3.06         | 46.69     | 75 115 | 326.59    | 3 512 509 | 21.42        |
| 15-16                                                            | 75 000  | 261    | 3.49         | 45.83     | 74 869 | 286.85    | 3 437 394 | 21.82        |
| 16-17                                                            | 74 739  | 301    | 4.02         | 44.99     | 74 588 | 247.80    | 3 362 525 | 22.23        |
| 17-18                                                            | 74 438  | 339    | 4.55         | 44.17     | 74 269 | 219.08    | 3 287 937 | 22.64        |
| 18-19                                                            | 74 099  | 371    | 5.02         | 43.37     | 73 913 | 199.23    | 3 213 668 | 23.06        |
| 19-20                                                            | 73 728  | 400    | 5.42         | 42.59     | 73 528 | 183.82    | 3 139 755 | 23.48        |
| 20-21                                                            | 73 328  | 428    | 5.84         | 41.82     | 73 114 | 170.83    | 3 066 227 | 23.91        |
| 21-22                                                            | 72 900  | 457    | 6.26         | 41.06     | 72 672 | 159.02    | 2 993 113 | 24.35        |
| 22-23                                                            | 72 443  | 477    | 6.60         | 40.31     | 72 204 | 151.37    | 2 920 441 | 24.81        |
| 23-24                                                            | 71 966  | 491    | 6.82         | 39.58     | 71 720 | 146.07    | 2 848 237 | 25.27        |
| 24-25                                                            | 71 475  | 499    | 6.98         | 38.85     | 71 225 | 142.74    | 2 776 517 | 25.74        |
| 25-26                                                            | 70 976  | 506    | 7.13         | 38.12     | 70 723 | 139.77    | 2 705 292 | 26.23        |
| 26-27                                                            | 70 470  | 512    | 7.27         | 37.39     | 70 214 | 137.14    | 2 634 569 | 26.75        |
| 27-28                                                            | 69 958  | 517    | 7.40         | 36.66     | 69 699 | 134.81    | 2 564 355 | 27.28        |
| 28-29                                                            | 69 441  | 523    | 7.53         | 35.92     | 69 179 | 132.27    | 2 494 656 | 27.84        |
| 29-30                                                            | 68 918  | 528    | 7.66         | 35.19     | 68 654 | 130.03    | 2 425 477 | 28.42        |
| 30-31                                                            | 68 390  | 534    | 7.80         | 34.46     | 68 123 | 127.57    | 2 356 823 | 29.02        |
| 31-32                                                            | 67 850  | 538    | 7.94         | 33.73     | 67 587 | 125.63    | 2 288 700 | 29.65        |
| 32-33                                                            | 67 318  | 546    | 8.11         | 32.99     | 67 045 | 122.79    | 2 221 113 | 30.31        |
| 33-34                                                            | 66 772  | 557    | 8.33         | 32.26     | 66 494 | 119.38    | 2 154 068 | 31.00        |
| 34-35                                                            | 66 215  | 568    | 8.58         | 31.53     | 65 931 | 116.08    | 2 087 574 | 31.72        |
| 35-36                                                            | 65 647  | 580    | 8.84         | 30.80     | 65 357 | 112.68    | 2 021 643 | 32.47        |
| 36-37                                                            | 65 067  | 593    | 9.11         | 30.07     | 64 770 | 109.22    | 1 956 286 | 33.26        |
| 37-38                                                            | 64 474  | 606    | 9.41         | 29.34     | 64 171 | 105.89    | 1 891 516 | 34.08        |
| 38-39                                                            | 63 868  | 624    | 9.76         | 28.61     | 63 556 | 101.85    | 1 827 345 | 34.95        |
| 39-40                                                            | 63 244  | 642    | 10.16        | 27.89     | 62 923 | 98.01     | 1 763 789 | 35.86        |
| 40-41                                                            | 62 602  | 664    | 10.60        | 27.17     | 62 270 | 93.78     | 1 700 866 | 36.81        |
| 41-42                                                            | 61 938  | 688    | 11.11        | 26.46     | 61 594 | 89.53     | 1 638 596 | 37.79        |
| 42-43                                                            | 61 250  | 709    | 11.58        | 25.75     | 60 895 | 85.89     | 1 577 002 | 38.83        |
| 43-44                                                            | 60 541  | 724    | 11.96        | 25.04     | 60 179 | 83.12     | 1 516 107 | 39.94        |
| 44-45                                                            | 59 817  | 735    | 12.28        | 24.34     | 59 450 | 80.88     | 1 455 928 | 41.08        |



## STATE OF MASSACHUSETTS: 1901.

## TABLE 42

REPORTED DEATHS IN 1900 (26,050), IN 1901 (24,873), AND IN 1902 (24,312).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                    | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                  | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                  | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                      | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 59 082 | 748   | 12.67        | 23.61     | 58 708 | 78.49     | 1 396 478 | 42.30        |
| 46-47                                                                      | 58 331 | 764   | 13.09        | 22.93     | 57 952 | 75.85     | 1 337 770 | 43.61        |
| 47-48                                                                      | 57 570 | 785   | 13.64        | 22.23     | 57 178 | 72.84     | 1 279 818 | 44.98        |
| 48-49                                                                      | 56 785 | 815   | 14.36        | 21.53     | 56 378 | 69.18     | 1 222 640 | 46.45        |
| 49-50                                                                      | 55 970 | 852   | 15.22        | 20.84     | 55 514 | 65.19     | 1 166 262 | 47.98        |
| 50-51                                                                      | 55 118 | 888   | 16.11        | 20.15     | 54 674 | 61.57     | 1 110 718 | 49.63        |
| 51-52                                                                      | 54 230 | 924   | 17.03        | 19.47     | 53 768 | 58.19     | 1 056 044 | 51.36        |
| 52-53                                                                      | 53 306 | 963   | 18.08        | 18.80     | 52 825 | 54.85     | 1 002 276 | 53.19        |
| 53-54                                                                      | 52 343 | 1 012 | 19.33        | 18.14     | 51 837 | 51.22     | 949 451   | 55.13        |
| 54-55                                                                      | 51 331 | 1 070 | 20.85        | 17.49     | 50 796 | 47.47     | 897 614   | 57.16        |
| 55-56                                                                      | 50 261 | 1 134 | 22.55        | 16.85     | 49 694 | 43.82     | 846 818   | 59.35        |
| 56-57                                                                      | 49 127 | 1 205 | 24.53        | 16.23     | 48 525 | 40.27     | 797 124   | 61.61        |
| 57-58                                                                      | 47 922 | 1 276 | 26.62        | 15.62     | 47 281 | 37.06     | 748 599   | 64.02        |
| 58-59                                                                      | 46 646 | 1 332 | 28.56        | 15.03     | 45 980 | 34.52     | 701 315   | 66.53        |
| 59-60                                                                      | 45 314 | 1 373 | 30.31        | 14.46     | 44 627 | 32.50     | 655 335   | 69.16        |
| 60-61                                                                      | 43 941 | 1 414 | 32.16        | 13.90     | 43 234 | 30.58     | 610 708   | 71.94        |
| 61-62                                                                      | 42 527 | 1 446 | 34.01        | 13.34     | 41 804 | 28.91     | 567 474   | 74.96        |
| 62-63                                                                      | 41 081 | 1 462 | 36.07        | 12.80     | 40 340 | 27.22     | 525 670   | 78.13        |
| 63-64                                                                      | 39 599 | 1 529 | 38.61        | 12.26     | 38 835 | 25.40     | 485 330   | 81.57        |
| 64-65                                                                      | 38 070 | 1 585 | 41.65        | 11.73     | 37 278 | 23.52     | 446 495   | 85.25        |
| 65-66                                                                      | 36 485 | 1 639 | 44.92        | 11.22     | 35 665 | 21.76     | 409 217   | 89.13        |
| 66-67                                                                      | 34 846 | 1 692 | 48.56        | 10.72     | 34 000 | 20.09     | 373 552   | 93.28        |
| 67-68                                                                      | 33 151 | 1 733 | 52.27        | 10.24     | 32 288 | 18.63     | 339 552   | 97.66        |
| 68-69                                                                      | 31 421 | 1 750 | 55.71        | 9.78      | 30 546 | 17.43     | 307 264   | 102.25       |
| 69-70                                                                      | 29 671 | 1 751 | 59.00        | 9.33      | 28 795 | 16.44     | 276 718   | 107.18       |
| 70-71                                                                      | 27 920 | 1 747 | 62.39        | 8.88      | 27 046 | 15.48     | 247 923   | 112.61       |
| 71-72                                                                      | 26 173 | 1 737 | 66.35        | 8.44      | 25 304 | 14.57     | 220 877   | 118.48       |
| 72-73                                                                      | 24 436 | 1 731 | 70.84        | 8.06      | 23 571 | 13.62     | 195 373   | 125.00       |
| 73-74                                                                      | 22 705 | 1 738 | 76.55        | 7.58      | 21 836 | 12.56     | 172 002   | 131.93       |
| 74-75                                                                      | 20 967 | 1 748 | 83.36        | 7.16      | 20 093 | 11.49     | 150 166   | 139.66       |
| 75-76                                                                      | 19 219 | 1 742 | 90.65        | 6.77      | 18 348 | 10.53     | 130 073   | 147.71       |
| 76-77                                                                      | 17 477 | 1 716 | 98.18        | 6.39      | 16 619 | 9.68      | 111 725   | 156.49       |
| 77-78                                                                      | 15 761 | 1 678 | 106.50       | 6.03      | 14 922 | 8.89      | 95 106    | 165.84       |
| 78-79                                                                      | 14 083 | 1 626 | 115.43       | 5.69      | 13 270 | 8.16      | 80 184    | 175.75       |
| 79-80                                                                      | 12 437 | 1 555 | 124.88       | 5.37      | 11 679 | 7.51      | 66 914    | 186.22       |
| 80-81                                                                      | 10 902 | 1 470 | 134.81       | 5.07      | 10 167 | 6.92      | 55 235    | 197.24       |
| 81-82                                                                      | 9 432  | 1 369 | 145.19       | 4.78      | 8 717  | 6.39      | 45 068    | 209.21       |
| 82-83                                                                      | 8 063  | 1 259 | 156.06       | 4.51      | 7 433  | 5.91      | 36 321    | 221.73       |
| 83-84                                                                      | 6 804  | 1 139 | 167.49       | 4.25      | 6 234  | 5.47      | 28 888    | 235.29       |
| 84-85                                                                      | 5 665  | 1 018 | 179.57       | 4.00      | 5 156  | 5.07      | 22 654    | 250.00       |
| 85-86                                                                      | 4 647  | 894   | 192.39       | 3.77      | 4 200  | 4.70      | 17 498    | 265.25       |
| 86-87                                                                      | 3 753  | 773   | 206.00       | 3.54      | 3 367  | 4.35      | 13 298    | 282.49       |
| 87-88                                                                      | 2 980  | 657   | 220.42       | 3.33      | 2 652  | 4.04      | 9 931     | 300.30       |
| 88-89                                                                      | 2 323  | 517   | 225.66       | 3.13      | 2 050  | 3.74      | 7 279     | 319.49       |
| 89-90                                                                      | 1 776  | 447   | 251.69       | 2.95      | 1 552  | 3.47      | 5 229     | 338.98       |
| 90-91                                                                      | 1 329  | 357   | 268.49       | 2.77      | 1 150  | 3.22      | 3 677     | 361.01       |
| 91-92                                                                      | 972    | 278   | 286.03       | 2.60      | 833    | 3.00      | 2 527     | 384.62       |
| 92-93                                                                      | 691    | 211   | 304.36       | 2.44      | 588    | 2.79      | 1 694     | 409.84       |
| 93-94                                                                      | 483    | 156   | 323.57       | 2.29      | 405    | 2.59      | 1 106     | 436.68       |
| 94-95                                                                      | 327    | 113   | 343.75       | 2.15      | 270    | 2.41      | 701       | 465.12       |
| 95-96                                                                      | 214    | 78    | 365.02       | 2.02      | 175    | 2.24      | 431       | 495.03       |
| 96-97                                                                      | 136    | 53    | 387.46       | 1.89      | 110    | 2.08      | 256       | 529.10       |
| 97-98                                                                      | 83     | 34    | 411.08       | 1.77      | 66     | 1.93      | 146       | 564.97       |
| 98-99                                                                      | 49     | 21    | 435.86       | 1.65      | 38     | 1.79      | 80        | 606.06       |
| 99-100                                                                     | 28     | 13    | 461.85       | 1.55      | 21     | 1.67      | 42        | 645.16       |
| 100-101                                                                    | 15     | 7     | 489.06       | 1.44      | 11     | 1.54      | 21        | 694.44       |
| 101-102                                                                    | 8      | 4     | 517.48       | 1.35      | 6      | 1.43      | 10        | 740.74       |
| 102-103                                                                    | 4      | 2     | 547.14       | 1.26      | 3      | 1.33      | 4         | 793.63       |
| 103-104                                                                    | 2      | 1     | 578.02       | 1.17      | 1      | 1.23      | 1         | 854.70       |
| 104-105                                                                    | 1      | 1     | 610.11       | 1.09      | .....  | 1.14      | .....     | 917.43       |

TABLE 43

## LIFE TABLE FOR MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (1,661,319), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE INTERVAL.                              | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                   | Population per death in age interval. | Sum of numbers in column 8 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                       | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            | 100 000 | 5 119 | Monthly rate. | In years. |       | Per month. |           | Annual rate. |
| 0-1                                                                | 94 881  | 1 437 | 51.19         | 49.33     | 8 013 | 18.84      | 4 933 230 | 20.27        |
| 1-2                                                                | 93 444  | 1 179 | 15.15         | 51.91     | 7 847 | 65.52      | 4 925 217 | 19.26        |
| 2-3                                                                | 92 265  | 1 006 | 12.62         | 52.62     | 7 738 | 78.72      | 4 917 370 | 19.00        |
| 3-4                                                                | 91 259  | 888   | 10.90         | 53.21     | 7 617 | 91.20      | 4 909 632 | 18.79        |
| 4-5                                                                | 90 371  | 794   | 9.73          | 53.72     | 7 568 | 102.24     | 4 901 985 | 18.62        |
| 5-6                                                                |         |       | 8.79          | 54.16     | 7 498 | 113.28     | 4 894 417 | 18.46        |
| 6-7                                                                | 89 577  | 712   | 7.95          | 54.56     | 7 435 | 125.28     | 4 886 919 | 18.33        |
| 7-8                                                                | 88 865  | 638   | 7.19          | 54.91     | 7 379 | 138.84     | 4 879 484 | 18.21        |
| 8-9                                                                | 88 227  | 571   | 6.49          | 55.22     | 7 328 | 153.96     | 4 872 105 | 18.11        |
| 9-10                                                               | 87 656  | 512   | 5.84          | 55.50     | 7 283 | 170.64     | 4 864 777 | 18.02        |
| 10-11                                                              | 87 141  | 454   | 5.21          | 55.74     | 7 243 | 191.40     | 4 857 494 | 17.94        |
| 11-12                                                              | 86 682  | 396   | 4.57          | 55.95     | 7 208 | 218.40     | 4 850 251 | 17.87        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           | 100 000 | 13 706 | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 86 204  | 2 446  | 137.06       | 49.33     | 90 187 | 6.58      | 4 933 230 | 20.27        |
| 1-2                                                              | 83 815  | 998    | 28.31        | 56.12     | 84 851 | 34.69     | 4 843 043 | 17.82        |
| 2-3                                                              | 82 840  | 691    | 11.90        | 56.75     | 83 319 | 83.49     | 4 768 192 | 17.62        |
| 3-4                                                              | 82 153  | 449    | 8.35         | 56.43     | 82 491 | 119.38    | 4 674 873 | 17.72        |
| 4-5                                                              |         |        | 5.46         | 55.90     | 81 925 | 182.46    | 4 592 382 | 17.89        |
| 5-6                                                              | 81 710  | 379    | 4.64         | 55.20     | 81 521 | 215.09    | 4 510 457 | 18.12        |
| 6-7                                                              | 81 331  | 321    | 3.95         | 54.46     | 81 171 | 252.87    | 4 428 936 | 18.36        |
| 7-8                                                              | 81 010  | 273    | 3.37         | 53.67     | 80 874 | 296.24    | 4 347 765 | 18.63        |
| 8-9                                                              | 80 737  | 235    | 2.92         | 52.85     | 80 620 | 343.06    | 4 266 891 | 18.92        |
| 9-10                                                             | 80 502  | 208    | 2.58         | 52.00     | 80 398 | 386.53    | 4 186 271 | 19.23        |
| 10-11                                                            | 80 294  | 190    | 2.37         | 51.14     | 80 199 | 422.10    | 4 105 873 | 19.55        |
| 11-12                                                            | 80 104  | 182    | 2.27         | 50.26     | 80 013 | 459.63    | 4 025 674 | 19.90        |
| 12-13                                                            | 79 922  | 181    | 2.27         | 49.37     | 79 832 | 411.06    | 3 945 661 | 20.26        |
| 13-14                                                            | 79 741  | 188    | 2.36         | 48.48     | 79 647 | 423.65    | 3 865 829 | 20.63        |
| 14-15                                                            | 79 553  | 202    | 2.53         | 47.59     | 79 452 | 393.33    | 3 786 182 | 21.01        |
| 15-16                                                            | 79 351  | 218    | 2.75         | 46.71     | 79 242 | 363.50    | 3 706 730 | 21.41        |
| 16-17                                                            | 79 133  | 242    | 3.05         | 45.84     | 79 013 | 326.50    | 3 627 488 | 21.82        |
| 17-18                                                            | 78 891  | 270    | 3.43         | 44.98     | 78 756 | 291.69    | 3 548 476 | 22.23        |
| 18-19                                                            | 78 621  | 301    | 3.83         | 44.13     | 78 470 | 260.70    | 3 469 720 | 22.66        |
| 19-20                                                            | 78 320  | 333    | 4.25         | 43.30     | 78 153 | 231.69    | 3 391 250 | 23.09        |
| 20-21                                                            | 77 987  | 367    | 4.70         | 42.48     | 77 804 | 212.00    | 3 313 097 | 23.54        |
| 21-22                                                            | 77 620  | 389    | 5.02         | 41.68     | 77 426 | 199.04    | 3 235 293 | 23.99        |
| 22-23                                                            | 77 231  | 398    | 5.16         | 40.89     | 77 032 | 193.55    | 3 157 867 | 24.46        |
| 23-24                                                            | 76 833  | 399    | 5.18         | 40.10     | 76 634 | 192.07    | 3 080 835 | 24.94        |
| 24-25                                                            | 76 434  | 400    | 5.24         | 39.30     | 76 234 | 190.59    | 3 004 201 | 25.45        |
| 25-26                                                            | 76 034  | 401    | 5.28         | 38.51     | 75 834 | 189.11    | 2 927 967 | 25.97        |
| 26-27                                                            | 75 634  | 407    | 5.38         | 37.71     | 75 429 | 185.33    | 2 852 133 | 26.52        |
| 27-28                                                            | 75 226  | 422    | 5.60         | 36.91     | 75 015 | 177.76    | 2 776 704 | 27.09        |
| 28-29                                                            | 74 801  | 442    | 5.92         | 36.12     | 74 583 | 168.74    | 2 701 689 | 27.69        |
| 29-30                                                            | 74 362  | 461    | 6.24         | 35.33     | 74 130 | 159.76    | 2 627 106 | 28.30        |
| 30-31                                                            | 73 898  | 488    | 6.60         | 34.55     | 73 654 | 150.93    | 2 552 976 | 28.94        |
| 31-32                                                            | 73 410  | 511    | 6.95         | 33.77     | 73 155 | 143.16    | 2 479 322 | 29.61        |
| 32-33                                                            | 72 899  | 527    | 7.24         | 33.01     | 72 636 | 137.83    | 2 406 167 | 30.29        |
| 33-34                                                            | 72 372  | 540    | 7.46         | 32.24     | 72 102 | 133.52    | 2 333 531 | 31.02        |
| 34-35                                                            | 71 832  | 553    | 7.70         | 31.48     | 71 556 | 129.40    | 2 261 429 | 31.77        |
| 35-36                                                            | 71 279  | 565    | 7.92         | 30.72     | 70 997 | 125.66    | 2 189 873 | 32.55        |
| 36-37                                                            | 70 714  | 579    | 8.20         | 29.96     | 70 424 | 121.63    | 2 118 876 | 33.38        |
| 37-38                                                            | 70 133  | 601    | 8.57         | 29.21     | 69 834 | 116.20    | 2 048 452 | 34.23        |
| 38-39                                                            | 69 534  | 627    | 9.01         | 28.46     | 69 221 | 110.40    | 1 978 618 | 35.14        |
| 39-40                                                            | 68 907  | 653    | 9.48         | 27.71     | 68 581 | 105.02    | 1 909 397 | 36.09        |
| 40-41                                                            | 68 254  | 682    | 10.00        | 26.97     | 67 913 | 99.58     | 1 840 816 | 37.08        |
| 41-42                                                            | 67 572  | 708    | 10.48        | 26.24     | 67 218 | 94.94     | 1 772 903 | 38.11        |
| 42-43                                                            | 66 864  | 727    | 10.87        | 25.51     | 66 500 | 91.47     | 1 705 685 | 39.20        |
| 43-44                                                            | 66 137  | 741    | 11.21        | 24.78     | 65 766 | 88.75     | 1 639 185 | 40.36        |
| 44-45                                                            | 65 396  | 759    | 11.60        | 24.06     | 65 017 | 85.66     | 1 573 419 | 41.56        |

## STATE OF MASSACHUSETTS: 1910.

## TABLE 43

REPORTED DEATHS IN 1909 (26,255), IN 1910 (28,208), AND IN 1911 (27,515).

Illustrative examples, showing how to use the tables, are given on pages 29 to 40.

| AGE<br>INTERVAL.                                    | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 64 637 | 777   | 12.03        | 23.34     | 64 248 | 82.69     | 1 508 402 | 42.84        |
| 46-47                                                                      | 63 860 | 805   | 12.59        | 22.61     | 63 457 | 78.83     | 1 414 154 | 44.23        |
| 47-48                                                                      | 63 055 | 841   | 13.34        | 21.90     | 62 635 | 74.48     | 1 380 697 | 45.66        |
| 48-49                                                                      | 62 244 | 884   | 14.21        | 21.19     | 61 772 | 69.88     | 1 318 062 | 47.19        |
| 49-50                                                                      | 61 330 | 926   | 15.10        | 20.48     | 60 867 | 65.73     | 1 256 290 | 48.83        |
| 50-51                                                                      | 60 404 | 970   | 16.05        | 19.79     | 59 919 | 61.77     | 1 195 423 | 50.53        |
| 51-52                                                                      | 59 434 | 1 011 | 17.02        | 19.11     | 58 929 | 58.29     | 1 135 504 | 52.33        |
| 52-53                                                                      | 58 423 | 1 055 | 18.06        | 18.43     | 57 895 | 54.88     | 1 076 575 | 54.26        |
| 53-54                                                                      | 57 368 | 1 105 | 19.25        | 17.76     | 56 816 | 51.42     | 1 018 680 | 56.31        |
| 54-55                                                                      | 56 263 | 1 161 | 20.64        | 17.10     | 55 683 | 47.96     | 961 864   | 58.48        |
| 55-56                                                                      | 55 102 | 1 226 | 22.26        | 16.45     | 54 489 | 44.44     | 906 181   | 60.79        |
| 56-57                                                                      | 53 876 | 1 303 | 24.17        | 15.81     | 53 224 | 40.85     | 851 692   | 63.25        |
| 57-58                                                                      | 52 573 | 1 381 | 26.27        | 15.19     | 51 883 | 37.57     | 798 468   | 65.83        |
| 58-59                                                                      | 51 192 | 1 456 | 28.45        | 14.58     | 50 464 | 34.66     | 746 585   | 68.59        |
| 59-60                                                                      | 49 736 | 1 530 | 30.76        | 14.00     | 48 971 | 32.01     | 696 121   | 71.43        |
| 60-61                                                                      | 48 206 | 1 598 | 33.15        | 13.42     | 47 407 | 29.67     | 647 150   | 74.52        |
| 61-62                                                                      | 46 608 | 1 665 | 35.73        | 12.87     | 45 775 | 27.49     | 599 743   | 77.70        |
| 62-63                                                                      | 44 943 | 1 736 | 38.62        | 12.33     | 44 075 | 25.39     | 553 968   | 81.10        |
| 63-64                                                                      | 43 207 | 1 807 | 41.83        | 11.80     | 42 303 | 23.41     | 509 893   | 84.75        |
| 64-65                                                                      | 41 400 | 1 872 | 45.21        | 11.29     | 40 464 | 21.62     | 467 590   | 88.57        |
| 65-66                                                                      | 39 528 | 1 930 | 48.81        | 10.81     | 38 563 | 19.98     | 427 126   | 92.51        |
| 66-67                                                                      | 37 598 | 1 973 | 52.49        | 10.33     | 36 612 | 18.56     | 388 563   | 96.81        |
| 67-68                                                                      | 35 625 | 2 000 | 56.13        | 9.88      | 34 625 | 17.31     | 351 951   | 101.21       |
| 68-69                                                                      | 33 625 | 2 011 | 59.81        | 9.44      | 32 620 | 16.22     | 317 326   | 105.93       |
| 69-70                                                                      | 31 614 | 2 015 | 63.75        | 9.01      | 30 607 | 15.19     | 284 706   | 110.99       |
| 70-71                                                                      | 29 599 | 2 010 | 67.91        | 8.58      | 28 594 | 14.23     | 254 099   | 116.55       |
| 71-72                                                                      | 27 589 | 2 000 | 72.17        | 8.17      | 26 589 | 13.29     | 225 505   | 122.40       |
| 72-73                                                                      | 25 589 | 1 985 | 77.60        | 7.77      | 24 596 | 12.39     | 198 916   | 128.70       |
| 73-74                                                                      | 23 604 | 1 967 | 83.32        | 7.39      | 22 620 | 11.50     | 174 320   | 135.32       |
| 74-75                                                                      | 21 637 | 1 938 | 89.55        | 7.01      | 20 668 | 10.66     | 151 700   | 142.65       |
| 75-76                                                                      | 19 699 | 1 900 | 96.45        | 6.65      | 18 749 | 9.87      | 131 032   | 150.38       |
| 76-77                                                                      | 17 799 | 1 846 | 103.74       | 6.31      | 16 876 | 9.14      | 112 283   | 158.48       |
| 77-78                                                                      | 15 953 | 1 773 | 111.15       | 5.98      | 15 066 | 8.50      | 95 407    | 167.22       |
| 78-79                                                                      | 14 180 | 1 685 | 118.80       | 5.67      | 13 337 | 7.92      | 80 341    | 176.37       |
| 79-80                                                                      | 12 495 | 1 593 | 127.47       | 5.36      | 11 699 | 7.34      | 67 004    | 186.57       |
| 80-81                                                                      | 10 902 | 1 498 | 137.43       | 5.07      | 10 153 | 6.78      | 55 305    | 197.24       |
| 81-82                                                                      | 9 401  | 1 392 | 147.99       | 4.80      | 8 708  | 6.26      | 45 152    | 208.33       |
| 82-83                                                                      | 8 012  | 1 269 | 158.42       | 4.55      | 7 378  | 5.81      | 36 441    | 219.78       |
| 83-84                                                                      | 6 743  | 1 141 | 169.24       | 4.31      | 6 172  | 5.41      | 29 066    | 232.02       |
| 84-85                                                                      | 5 602  | 1 011 | 180.37       | 4.09      | 5 096  | 5.04      | 22 894    | 244.50       |
| 85-86                                                                      | 4 591  | 881   | 191.87       | 3.88      | 4 150  | 4.71      | 17 798    | 257.73       |
| 86-87                                                                      | 3 710  | 755   | 203.39       | 3.68      | 3 333  | 4.42      | 13 648    | 271.74       |
| 87-88                                                                      | 2 955  | 635   | 214.98       | 3.49      | 2 638  | 4.15      | 10 315    | 286.53       |
| 88-89                                                                      | 2 320  | 526   | 226.65       | 3.31      | 2 057  | 3.91      | 7 677     | 302.11       |
| 89-90                                                                      | 1 794  | 428   | 238.69       | 3.13      | 1 580  | 3.69      | 5 620     | 319.49       |
| 90-91                                                                      | 1 366  | 344   | 251.53       | 2.96      | 1 194  | 3.48      | 4 040     | 337.84       |
| 91-92                                                                      | 1 022  | 271   | 265.72       | 2.78      | 887    | 3.26      | 2 816     | 359.71       |
| 92-93                                                                      | 751    | 212   | 281.88       | 2.61      | 645    | 3.05      | 1 959     | 383.14       |
| 93-94                                                                      | 539    | 162   | 300.52       | 2.44      | 458    | 2.83      | 1 314     | 409.81       |
| 94-95                                                                      | 377    | 121   | 321.76       | 2.27      | 316    | 2.61      | 856       | 440.53       |
| 95-96                                                                      | 256    | 89    | 345.43       | 2.11      | 212    | 2.39      | 540       | 473.93       |
| 96-97                                                                      | 167    | 62    | 371.01       | 1.96      | 136    | 2.20      | 328       | 510.20       |
| 97-98                                                                      | 105    | 42    | 398.01       | 1.82      | 84     | 2.01      | 192       | 549.45       |
| 98-99                                                                      | 63     | 27    | 426.00       | 1.69      | 50     | 1.85      | 108       | 591.72       |
| 99-100                                                                     | 36     | 16    | 454.69       | 1.57      | 28     | 1.70      | 58        | 636.94       |
| 100-101                                                                    | 20     | 10    | 483.90       | 1.46      | 15     | 1.57      | 30        | 681.93       |
| 101-102                                                                    | 10     | 5     | 513.86       | 1.36      | 8      | 1.45      | 15        | 745.29       |
| 102-103                                                                    | 5      | 3     | 544.89       | 1.26      | 4      | 1.34      | 7         | 793.63       |
| 103-104                                                                    | 2      | 1     | 577.35       | 1.17      | 2      | 1.23      | 3         | 854.70       |
| 104-105                                                                    | 1      | 1     | 611.42       | 1.09      | 1      | 1.14      | 1         | 917.43       |

TABLE 44

## LIFE TABLE FOR FEMALES IN THE

BASED ON THE ESTIMATED POPULATION DECEMBER 1, 1889 (1,136,902), AND ON

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                      | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                    | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                    | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                        | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

This life table is based on the estimated population December 31, 1889, and reported deaths for the census year ended May 31, 1890, shown in Table 179, page 470. The reported deaths are not in exact agreement with those published in the Massachusetts Registration Reports, but the differences are small except for the age under 1 year.

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           | 100 000 |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 14 753 | 147.55       | 44.46     | 89 521 | 6.07      | 4 446 137 | 22.49        |
| 1-2                                                              | 85 245  | 3 983  | 46.73        | 51.11     | 82 895 | 20.81     | 4 356 613 | 19.57        |
| 2-3                                                              | 81 262  | 2 191  | 26.99        | 52.59     | 80 099 | 36.51     | 4 273 718 | 19.02        |
| 3-4                                                              | 79 068  | 1 395  | 17.61        | 53.04     | 78 343 | 56.16     | 4 193 619 | 18.85        |
| 4-5                                                              | 77 673  | 1 088  | 14.02        | 52.98     | 77 107 | 70.87     | 4 115 276 | 18.88        |
| 5-6                                                              | 76 585  | 845    | 11.03        | 52.73     | 76 162 | 90.13     | 4 038 169 | 18.96        |
| 6-7                                                              | 75 740  | 651    | 8.61         | 52.31     | 75 413 | 115.31    | 3 962 007 | 19.12        |
| 7-8                                                              | 75 086  | 510    | 6.79         | 51.76     | 74 831 | 146.73    | 3 886 594 | 19.32        |
| 8-9                                                              | 74 576  | 403    | 5.41         | 51.11     | 74 373 | 183.64    | 3 811 763 | 19.57        |
| 9-10                                                             | 74 171  | 336    | 4.53         | 50.39     | 74 003 | 220.25    | 3 737 390 | 19.85        |
| 10-11                                                            | 73 835  | 296    | 4.01         | 49.62     | 73 687 | 248.94    | 3 663 387 | 20.15        |
| 11-12                                                            | 73 539  | 251    | 3.82         | 48.81     | 73 399 | 261.21    | 3 589 700 | 20.49        |
| 12-13                                                            | 73 258  | 228    | 3.93         | 48.00     | 73 114 | 253.87    | 3 516 301 | 20.83        |
| 13-14                                                            | 72 970  | 311    | 4.26         | 47.19     | 72 815 | 234.13    | 3 443 187 | 21.19        |
| 14-15                                                            | 72 659  | 347    | 4.78         | 46.39     | 72 486 | 208.89    | 3 370 372 | 21.56        |
| 15-16                                                            | 72 312  | 391    | 5.41         | 45.61     | 72 117 | 184.44    | 3 297 886 | 21.93        |
| 16-17                                                            | 71 921  | 440    | 6.12         | 44.85     | 71 701 | 162.96    | 3 225 769 | 22.30        |
| 17-18                                                            | 71 481  | 479    | 6.70         | 44.12     | 71 241 | 118.73    | 3 154 068 | 22.67        |
| 18-19                                                            | 71 002  | 500    | 7.04         | 43.42     | 70 752 | 141.50    | 3 082 827 | 23.03        |
| 19-20                                                            | 70 502  | 510    | 7.23         | 42.72     | 70 247 | 137.74    | 3 012 075 | 23.41        |
| 20-21                                                            | 69 992  | 522    | 7.47         | 42.03     | 69 731 | 133.58    | 2 941 828 | 23.79        |
| 21-22                                                            | 69 470  | 535    | 7.69         | 41.34     | 69 202 | 129.35    | 2 872 097 | 24.19        |
| 22-23                                                            | 68 935  | 546    | 7.92         | 40.66     | 68 662 | 125.75    | 2 802 895 | 24.59        |
| 23-24                                                            | 68 389  | 560    | 8.18         | 39.98     | 68 109 | 121.62    | 2 734 233 | 25.01        |
| 24-25                                                            | 67 829  | 575    | 8.48         | 39.31     | 67 542 | 117.46    | 2 666 124 | 25.44        |
| 25-26                                                            | 67 254  | 590    | 8.78         | 38.64     | 66 959 | 113.49    | 2 598 582 | 25.88        |
| 26-27                                                            | 66 661  | 607    | 9.10         | 37.98     | 66 361 | 109.33    | 2 531 623 | 26.33        |
| 27-28                                                            | 66 057  | 619    | 9.37         | 37.32     | 65 748 | 106.22    | 2 465 262 | 26.80        |
| 28-29                                                            | 65 438  | 623    | 9.52         | 36.67     | 65 127 | 104.54    | 2 399 514 | 27.27        |
| 29-30                                                            | 64 815  | 622    | 9.59         | 36.02     | 64 504 | 103.70    | 2 334 387 | 27.76        |
| 30-31                                                            | 64 193  | 621    | 9.68         | 35.36     | 63 883 | 102.87    | 2 269 883 | 28.28        |
| 31-32                                                            | 63 572  | 619    | 9.75         | 34.70     | 63 262 | 102.20    | 2 206 000 | 28.82        |
| 32-33                                                            | 62 953  | 622    | 9.87         | 34.04     | 62 642 | 100.71    | 2 142 738 | 29.38        |
| 33-34                                                            | 62 331  | 629    | 10.10        | 33.37     | 62 016 | 98.59     | 2 080 096 | 29.97        |
| 34-35                                                            | 61 702  | 642    | 10.40        | 32.71     | 61 381 | 95.61     | 2 018 080 | 30.57        |
| 35-36                                                            | 61 060  | 653    | 10.70        | 32.05     | 60 733 | 93.01     | 1 956 699 | 31.20        |
| 36-37                                                            | 60 407  | 666    | 11.02        | 31.39     | 60 074 | 90.20     | 1 895 966 | 31.86        |
| 37-38                                                            | 59 741  | 674    | 11.29        | 30.73     | 59 401 | 88.14     | 1 835 892 | 32.54        |
| 38-39                                                            | 59 067  | 677    | 11.47        | 30.08     | 58 728 | 86.75     | 1 776 488 | 33.24        |
| 39-40                                                            | 58 390  | 677    | 11.59        | 29.42     | 58 051 | 85.75     | 1 717 760 | 33.99        |
| 40-41                                                            | 57 713  | 676    | 11.72        | 28.76     | 57 375 | 84.87     | 1 659 709 | 34.77        |
| 41-42                                                            | 57 037  | 676    | 11.85        | 28.09     | 56 699 | 83.87     | 1 602 334 | 35.60        |
| 42-43                                                            | 56 361  | 679    | 12.04        | 27.42     | 56 022 | 82.51     | 1 545 635 | 36.47        |
| 43-44                                                            | 55 682  | 688    | 12.36        | 26.75     | 55 338 | 80.43     | 1 489 613 | 37.38        |
| 44-45                                                            | 54 994  | 702    | 12.77        | 26.08     | 54 643 | 77.84     | 1 434 275 | 38.34        |

## STATE OF MASSACHUSETTS: 1890.

TABLE 44

THE REPORTED DEATHS IN THE CENSUS YEAR ENDED MAY 31, 1890 (21,557).

Illustrative examples, showing how to use the tables, are given on pages 20 to 49.

| AGE<br>INTERVAL.                                    | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000l_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 51 292 | 716   | 13.19        | 25.41     | 53 934 | 75.33     | 1 379 632 | 39.35        |
| 46-47                                                                      | 53 576 | 733   | 13.68        | 24.74     | 53 210 | 72.59     | 1 325 698 | 40.42        |
| 47-48                                                                      | 52 843 | 716   | 14.12        | 24.08     | 52 470 | 70.34     | 1 272 488 | 41.53        |
| 48-49                                                                      | 52 097 | 753   | 14.45        | 23.42     | 51 721 | 68.69     | 1 220 018 | 42.70        |
| 49-50                                                                      | 51 344 | 756   | 14.74        | 22.75     | 50 966 | 67.42     | 1 168 297 | 43.96        |
| 50-51                                                                      | 50 588 | 762   | 15.06        | 22.09     | 50 207 | 65.89     | 1 117 331 | 45.27        |
| 51-52                                                                      | 49 826 | 766   | 15.37        | 21.43     | 49 443 | 64.55     | 1 067 124 | 46.69        |
| 52-53                                                                      | 49 060 | 780   | 15.89        | 20.74     | 48 670 | 62.40     | 1 017 681 | 48.22        |
| 53-54                                                                      | 48 280 | 810   | 16.79        | 20.07     | 47 875 | 59.10     | 969 011   | 49.83        |
| 54-55                                                                      | 47 470 | 856   | 18.03        | 19.10     | 47 012 | 51.96     | 921 136   | 51.55        |
| 55-56                                                                      | 46 614 | 906   | 19.44        | 18.75     | 46 161 | 50.95     | 874 094   | 53.33        |
| 56-57                                                                      | 45 708 | 967   | 21.15        | 18.11     | 45 224 | 46.77     | 827 933   | 55.22        |
| 57-58                                                                      | 44 741 | 1 022 | 22.84        | 17.49     | 44 230 | 43.28     | 782 709   | 57.18        |
| 58-59                                                                      | 43 719 | 1 052 | 24.07        | 16.89     | 43 193 | 41.06     | 738 479   | 59.21        |
| 59-60                                                                      | 42 667 | 1 064 | 24.93        | 16.30     | 42 135 | 39.60     | 695 286   | 61.35        |
| 60-61                                                                      | 41 603 | 1 077 | 25.88        | 15.70     | 41 065 | 38.13     | 653 151   | 63.69        |
| 61-62                                                                      | 40 526 | 1 086 | 26.79        | 15.10     | 39 983 | 36.82     | 612 086   | 66.23        |
| 62-63                                                                      | 39 440 | 1 101 | 28.00        | 14.51     | 38 888 | 35.22     | 572 103   | 68.92        |
| 63-64                                                                      | 38 336 | 1 145 | 29.87        | 13.91     | 37 763 | 32.98     | 533 215   | 71.89        |
| 64-65                                                                      | 37 191 | 1 206 | 32.41        | 13.32     | 36 588 | 30.34     | 495 452   | 75.08        |
| 65-66                                                                      | 35 985 | 1 266 | 35.18        | 12.75     | 35 352 | 27.92     | 458 864   | 78.43        |
| 66-67                                                                      | 34 719 | 1 332 | 38.38        | 12.20     | 34 053 | 25.57     | 423 512   | 81.97        |
| 67-68                                                                      | 33 387 | 1 393 | 41.72        | 11.66     | 32 690 | 23.47     | 389 459   | 85.76        |
| 68-69                                                                      | 31 991 | 1 450 | 44.70        | 11.15     | 31 279 | 21.87     | 356 769   | 89.69        |
| 69-70                                                                      | 30 561 | 1 446 | 47.32        | 10.65     | 29 841 | 20.64     | 325 490   | 93.90        |
| 70-71                                                                      | 29 118 | 1 462 | 50.20        | 10.15     | 28 387 | 19.42     | 295 649   | 98.52        |
| 71-72                                                                      | 27 656 | 1 471 | 53.20        | 9.66      | 26 920 | 18.30     | 267 262   | 103.52       |
| 72-73                                                                      | 26 185 | 1 481 | 56.51        | 9.18      | 25 444 | 17.18     | 240 342   | 108.93       |
| 73-74                                                                      | 24 704 | 1 499 | 60.68        | 8.70      | 23 955 | 15.98     | 214 898   | 114.94       |
| 74-75                                                                      | 23 205 | 1 527 | 65.81        | 8.23      | 22 441 | 14.70     | 190 943   | 121.51       |
| 75-76                                                                      | 21 678 | 1 551 | 71.54        | 7.77      | 20 902 | 13.48     | 168 502   | 128.70       |
| 76-77                                                                      | 20 127 | 1 573 | 78.14        | 7.33      | 19 341 | 12.30     | 147 600   | 136.43       |
| 77-78                                                                      | 18 551 | 1 582 | 85.27        | 6.91      | 17 763 | 11.23     | 128 259   | 144.72       |
| 78-79                                                                      | 16 972 | 1 573 | 92.66        | 6.51      | 16 186 | 10.29     | 110 496   | 153.61       |
| 79-80                                                                      | 15 399 | 1 548 | 100.54       | 6.12      | 14 625 | 9.45      | 94 310    | 163.40       |
| 80-81                                                                      | 13 851 | 1 509 | 108.97       | 5.75      | 13 096 | 8.68      | 79 685    | 173.91       |
| 81-82                                                                      | 12 342 | 1 458 | 118.09       | 5.40      | 11 613 | 7.97      | 66 589    | 185.19       |
| 82-83                                                                      | 10 884 | 1 394 | 128.08       | 5.05      | 10 187 | 7.31      | 54 976    | 198.02       |
| 83-84                                                                      | 9 490  | 1 320 | 139.17       | 4.72      | 8 830  | 6.69      | 44 789    | 211.86       |
| 84-85                                                                      | 8 170  | 1 238 | 151.53       | 4.40      | 7 551  | 6.10      | 35 959    | 227.27       |
| 85-86                                                                      | 6 932  | 1 146 | 165.26       | 4.10      | 6 359  | 5.55      | 28 408    | 243.90       |
| 86-87                                                                      | 5 786  | 1 044 | 180.11       | 3.81      | 5 264  | 5.04      | 22 049    | 262.17       |
| 87-88                                                                      | 4 742  | 934   | 196.95       | 3.54      | 4 275  | 4.58      | 16 783    | 282.49       |
| 88-89                                                                      | 3 808  | 818   | 214.83       | 3.29      | 3 399  | 4.15      | 12 510    | 303.95       |
| 89-90                                                                      | 2 990  | 699   | 233.98       | 3.05      | 2 640  | 3.77      | 9 111     | 327.87       |
| 90-91                                                                      | 2 291  | 583   | 251.36       | 2.83      | 1 999  | 3.43      | 6 471     | 353.36       |
| 91-92                                                                      | 1 708  | 471   | 275.97       | 2.62      | 1 472  | 3.12      | 4 472     | 381.68       |
| 92-93                                                                      | 1 237  | 370   | 298.84       | 2.43      | 1 052  | 2.85      | 3 000     | 411.52       |
| 93-94                                                                      | 867    | 280   | 323.01       | 2.25      | 727    | 2.60      | 1 948     | 444.44       |
| 94-95                                                                      | 587    | 205   | 348.52       | 2.08      | 485    | 2.37      | 1 221     | 480.77       |
| 95-96                                                                      | 382    | 143   | 375.38       | 1.92      | 311    | 2.16      | 736       | 520.83       |
| 96-97                                                                      | 239    | 97    | 403.58       | 1.78      | 191    | 1.98      | 425       | 561.80       |
| 97-98                                                                      | 142    | 61    | 432.87       | 1.65      | 112    | 1.81      | 234       | 606.06       |
| 98-99                                                                      | 81     | 38    | 463.63       | 1.52      | 62     | 1.66      | 122       | 657.89       |
| 99-100                                                                     | 43     | 21    | 495.59       | 1.41      | 33     | 1.53      | 60        | 709.22       |
| 100-101                                                                    | 22     | 12    | 528.68       | 1.30      | 16     | 1.39      | 27        | 769.23       |
| 101-102                                                                    | 10     | 5     | 562.79       | 1.21      | 7      | 1.28      | 11        | 826.45       |
| 102-103                                                                    | 5      | 3     | 597.79       | 1.12      | 3      | 1.17      | 4         | 892.56       |
| 103-104                                                                    | 2      | 1     | 633.54       | 1.03      | 1      | 1.08      | 1         | 970.87       |
| 104-105                                                                    | 1      | 1     | 669.85       | .96       |        | .99       |           |              |

TABLE 45

## LIFE TABLE FOR FEMALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (1,467,854), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE<br>INTERVAL.                                    | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 13 118 | 131.18       | 49.42     | 90 686 | 6.91      | 4 941 503 | 20.23        |
| 1-2                                                              | 86 882  | 2 945  | 33.89        | 55.83     | 85 144 | 28.91     | 4 850 817 | 17.91        |
| 2-3                                                              | 83 937  | 1 439  | 17.14        | 56.78     | 83 174 | 57.80     | 4 765 673 | 17.61        |
| 3-4                                                              | 82 498  | 951    | 11.56        | 56.76     | 82 002 | 85.96     | 4 682 499 | 17.62        |
| 4-5                                                              | 81 544  | 728    | 8.93         | 56.42     | 81 166 | 111.49    | 4 600 497 | 17.72        |
| 5-6                                                              | 80 816  | 552    | 6.84         | 55.92     | 80 540 | 145.91    | 4 519 331 | 17.88        |
| 6-7                                                              | 80 264  | 419    | 5.22         | 55.30     | 80 054 | 191.06    | 4 438 791 | 18.08        |
| 7-8                                                              | 79 845  | 322    | 4.03         | 54.59     | 79 684 | 247.47    | 4 358 737 | 18.32        |
| 8-9                                                              | 79 523  | 256    | 3.22         | 53.81     | 79 395 | 310.14    | 4 279 053 | 18.58        |
| 9-10                                                             | 79 267  | 215    | 2.71         | 52.98     | 79 159 | 368.18    | 4 199 658 | 18.88        |
| 10-11                                                            | 79 052  | 196    | 2.47         | 52.12     | 78 954 | 402.83    | 4 120 499 | 19.19        |
| 11-12                                                            | 78 856  | 191    | 2.43         | 51.25     | 78 760 | 412.36    | 4 041 545 | 19.51        |
| 12-13                                                            | 78 665  | 200    | 2.54         | 50.38     | 78 565 | 392.83    | 3 962 785 | 19.85        |
| 13-14                                                            | 78 465  | 214    | 2.73         | 49.50     | 78 358 | 366.16    | 3 884 230 | 20.20        |
| 14-15                                                            | 78 251  | 232    | 2.96         | 48.64     | 78 135 | 336.79    | 3 805 862 | 20.56        |
| 15-16                                                            | 78 019  | 256    | 3.28         | 47.78     | 77 891 | 304.26    | 3 727 727 | 20.93        |
| 16-17                                                            | 77 763  | 286    | 3.68         | 46.94     | 77 620 | 271.40    | 3 649 836 | 21.30        |
| 17-18                                                            | 77 477  | 317    | 4.09         | 46.11     | 77 318 | 243.91    | 3 572 216 | 21.69        |
| 18-19                                                            | 77 160  | 344    | 4.46         | 45.29     | 76 988 | 223.80    | 3 494 898 | 22.08        |
| 19-20                                                            | 76 816  | 367    | 4.78         | 44.49     | 76 632 | 208.81    | 3 417 910 | 22.48        |
| 20-21                                                            | 76 449  | 369    | 5.09         | 43.71     | 76 254 | 196.03    | 3 341 278 | 22.88        |
| 21-22                                                            | 76 060  | 410    | 5.39         | 42.93     | 75 855 | 185.01    | 3 265 024 | 23.29        |
| 22-23                                                            | 75 650  | 428    | 5.66         | 42.16     | 75 436 | 176.25    | 3 189 169 | 23.72        |
| 23-24                                                            | 75 222  | 444    | 5.91         | 41.39     | 75 000 | 168.92    | 3 113 733 | 24.16        |
| 24-25                                                            | 74 778  | 460    | 6.15         | 40.64     | 74 548 | 162.06    | 3 038 733 | 24.61        |
| 25-26                                                            | 74 318  | 475    | 6.39         | 39.89     | 74 080 | 155.96    | 2 964 185 | 25.07        |
| 26-27                                                            | 73 843  | 491    | 6.64         | 39.14     | 73 597 | 149.89    | 2 890 105 | 25.55        |
| 27-28                                                            | 73 352  | 503    | 6.86         | 38.40     | 73 101 | 145.33    | 2 816 508 | 26.04        |
| 28-29                                                            | 72 849  | 512    | 7.03         | 37.66     | 72 593 | 141.78    | 2 743 407 | 26.55        |
| 29-30                                                            | 72 337  | 519    | 7.17         | 36.92     | 72 078 | 138.88    | 2 670 814 | 27.09        |
| 30-31                                                            | 71 818  | 526    | 7.33         | 36.19     | 71 555 | 136.04    | 2 598 736 | 27.63        |
| 31-32                                                            | 71 292  | 535    | 7.51         | 35.45     | 71 024 | 132.76    | 2 527 181 | 28.21        |
| 32-33                                                            | 70 757  | 543    | 7.67         | 34.71     | 70 485 | 129.81    | 2 456 157 | 28.81        |
| 33-34                                                            | 70 214  | 547    | 7.80         | 33.98     | 69 940 | 127.86    | 2 385 672 | 29.43        |
| 34-35                                                            | 69 667  | 550    | 7.90         | 33.24     | 69 392 | 126.17    | 2 315 732 | 30.08        |
| 35-36                                                            | 69 117  | 553    | 8.00         | 32.50     | 68 840 | 124.48    | 2 246 340 | 30.77        |
| 36-37                                                            | 68 564  | 554    | 8.07         | 31.76     | 68 287 | 123.26    | 2 177 500 | 31.49        |
| 37-38                                                            | 68 010  | 560    | 8.24         | 31.01     | 67 730 | 120.95    | 2 109 213 | 32.25        |
| 38-39                                                            | 67 450  | 579    | 8.58         | 30.27     | 67 161 | 115.99    | 2 041 483 | 33.04        |
| 39-40                                                            | 66 871  | 603    | 9.03         | 29.52     | 66 570 | 110.40    | 1 974 322 | 33.88        |
| 40-41                                                            | 66 268  | 631    | 9.51         | 28.79     | 65 953 | 104.52    | 1 907 752 | 34.73        |
| 41-42                                                            | 65 637  | 661    | 10.08        | 28.06     | 65 307 | 98.80     | 1 841 799 | 35.64        |
| 42-43                                                            | 64 976  | 685    | 10.54        | 27.34     | 64 634 | 94.36     | 1 776 492 | 36.58        |
| 43-44                                                            | 64 291  | 691    | 10.76        | 26.63     | 63 946 | 92.54     | 1 711 858 | 37.55        |
| 44-45                                                            | 63 600  | 689    | 10.84        | 25.91     | 63 255 | 91.81     | 1 647 912 | 38.60        |



## STATE OF MASSACHUSETTS: 1901.

## TABLE 45

REPORTED DEATHS IN 1900 (25,149), IN 1901 (23,332), AND IN 1902 (23,186).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE<br>INTERVAL.                                    | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 62 911 | 691   | 10.97        | 25.19     | 62 566 | 90.54     | 1 584 657 | 39.70        |
| 46-47                                                                      | 62 230 | 690   | 11.10        | 24.46     | 61 875 | 89.67     | 1 522 091 | 40.88        |
| 47-48                                                                      | 61 530 | 704   | 11.44        | 23.73     | 61 178 | 86.90     | 1 460 216 | 42.14        |
| 48-49                                                                      | 60 826 | 738   | 12.13        | 23.00     | 60 457 | 81.92     | 1 399 038 | 43.48        |
| 49-50                                                                      | 60 088 | 786   | 13.08        | 22.28     | 59 695 | 75.95     | 1 338 581 | 44.88        |
| 50-51                                                                      | 59 302 | 833   | 14.04        | 21.57     | 58 886 | 70.69     | 1 278 886 | 46.36        |
| 51-52                                                                      | 58 469 | 880   | 15.06        | 20.87     | 58 029 | 65.91     | 1 220 000 | 47.92        |
| 52-53                                                                      | 57 589 | 927   | 16.09        | 20.18     | 57 126 | 61.62     | 1 161 971 | 49.55        |
| 53-54                                                                      | 56 662 | 971   | 17.15        | 19.50     | 56 176 | 57.85     | 1 104 845 | 51.28        |
| 54-55                                                                      | 55 691 | 1 020 | 18.31        | 18.83     | 55 181 | 54.10     | 1 048 669 | 53.11        |
| 55-56                                                                      | 54 671 | 1 073 | 19.63        | 18.17     | 54 135 | 50.45     | 993 488   | 55.04        |
| 56-57                                                                      | 53 598 | 1 134 | 21.15        | 17.53     | 53 031 | 46.76     | 939 353   | 57.05        |
| 57-58                                                                      | 52 464 | 1 192 | 22.73        | 16.89     | 51 868 | 43.51     | 886 322   | 59.21        |
| 58-59                                                                      | 51 272 | 1 239 | 24.17        | 16.28     | 50 653 | 40.88     | 834 454   | 61.43        |
| 59-60                                                                      | 50 033 | 1 275 | 25.48        | 15.67     | 49 395 | 38.74     | 783 801   | 63.82        |
| 60-61                                                                      | 48 758 | 1 310 | 26.86        | 15.06     | 48 103 | 36.72     | 734 406   | 66.40        |
| 61-62                                                                      | 47 448 | 1 339 | 28.23        | 14.46     | 46 779 | 34.94     | 686 303   | 69.16        |
| 62-63                                                                      | 46 109 | 1 376 | 29.84        | 13.87     | 45 421 | 33.01     | 639 524   | 72.10        |
| 63-64                                                                      | 44 733 | 1 428 | 31.93        | 13.28     | 44 019 | 30.83     | 594 103   | 75.30        |
| 64-65                                                                      | 43 305 | 1 496 | 34.54        | 12.70     | 42 557 | 28.45     | 550 084   | 78.74        |
| 65-66                                                                      | 41 809 | 1 560 | 37.32        | 12.14     | 41 029 | 26.30     | 507 527   | 82.37        |
| 66-67                                                                      | 40 249 | 1 625 | 40.35        | 11.59     | 39 437 | 24.27     | 466 498   | 86.28        |
| 67-68                                                                      | 38 624 | 1 691 | 43.80        | 11.06     | 37 779 | 22.34     | 427 061   | 90.42        |
| 68-69                                                                      | 36 933 | 1 761 | 47.67        | 10.54     | 36 052 | 20.47     | 389 282   | 94.88        |
| 69-70                                                                      | 35 172 | 1 824 | 51.86        | 10.04     | 34 260 | 18.78     | 353 230   | 99.60        |
| 70-71                                                                      | 33 348 | 1 883 | 56.47        | 9.56      | 32 407 | 17.21     | 318 970   | 104.60       |
| 71-72                                                                      | 31 465 | 1 940 | 61.67        | 9.11      | 30 495 | 15.72     | 286 563   | 109.77       |
| 72-73                                                                      | 29 525 | 1 971 | 66.74        | 8.67      | 28 539 | 14.48     | 256 068   | 115.34       |
| 73-74                                                                      | 27 554 | 1 963 | 71.26        | 8.26      | 26 572 | 13.54     | 227 529   | 121.07       |
| 74-75                                                                      | 25 591 | 1 931 | 75.46        | 7.85      | 24 625 | 12.75     | 200 957   | 127.39       |
| 75-76                                                                      | 23 660 | 1 894 | 80.08        | 7.45      | 22 713 | 11.99     | 176 332   | 134.23       |
| 76-77                                                                      | 21 766 | 1 845 | 84.76        | 7.06      | 20 844 | 11.30     | 153 619   | 141.64       |
| 77-78                                                                      | 19 921 | 1 803 | 90.49        | 6.67      | 19 020 | 10.55     | 132 775   | 149.93       |
| 78-79                                                                      | 18 118 | 1 774 | 97.96        | 6.28      | 17 231 | 9.71      | 113 755   | 159.24       |
| 79-80                                                                      | 16 344 | 1 750 | 107.07       | 5.91      | 15 469 | 8.84      | 96 524    | 169.20       |
| 80-81                                                                      | 14 594 | 1 710 | 117.14       | 5.55      | 13 739 | 8.04      | 81 053    | 180.18       |
| 81-82                                                                      | 12 884 | 1 614 | 127.59       | 5.22      | 12 062 | 7.34      | 67 316    | 191.57       |
| 82-83                                                                      | 11 210 | 1 554 | 138.31       | 4.92      | 10 463 | 6.73      | 55 254    | 203.25       |
| 83-84                                                                      | 9 686  | 1 449 | 149.60       | 4.62      | 8 961  | 6.18      | 44 791    | 216.45       |
| 84-85                                                                      | 8 237  | 1 330 | 161.47       | 4.35      | 7 572  | 5.69      | 35 830    | 229.89       |
| 85-86                                                                      | 6 907  | 1 202 | 173.95       | 4.09      | 6 306  | 5.25      | 28 258    | 244.50       |
| 86-87                                                                      | 5 705  | 1 067 | 187.05       | 3.85      | 5 172  | 4.85      | 21 952    | 259.74       |
| 87-88                                                                      | 4 638  | 931   | 200.75       | 3.62      | 4 173  | 4.48      | 16 780    | 276.24       |
| 88-89                                                                      | 3 707  | 797   | 215.08       | 3.40      | 3 308  | 4.15      | 12 607    | 294.12       |
| 89-90                                                                      | 2 910  | 670   | 230.02       | 3.20      | 2 575  | 3.83      | 9 299     | 312.50       |
| 90-91                                                                      | 2 240  | 550   | 245.64       | 3.00      | 1 965  | 3.57      | 6 724     | 333.33       |
| 91-92                                                                      | 1 690  | 443   | 262.10       | 2.82      | 1 469  | 3.32      | 4 759     | 354.61       |
| 92-93                                                                      | 1 247  | 349   | 279.63       | 2.61      | 1 073  | 3.08      | 3 290     | 378.79       |
| 93-94                                                                      | 898    | 268   | 298.46       | 2.47      | 764    | 2.85      | 2 217     | 404.86       |
| 94-95                                                                      | 630    | 201   | 318.76       | 2.31      | 530    | 2.64      | 1 453     | 432.90       |
| 95-96                                                                      | 429    | 146   | 340.59       | 2.15      | 356    | 2.44      | 923       | 463.12       |
| 96-97                                                                      | 283    | 103   | 363.99       | 2.01      | 232    | 2.25      | 567       | 497.51       |
| 97-98                                                                      | 180    | 70    | 388.81       | 1.87      | 145    | 2.07      | 335       | 531.76       |
| 98-99                                                                      | 110    | 46    | 414.90       | 1.74      | 87     | 1.91      | 190       | 574.71       |
| 99-100                                                                     | 64     | 28    | 442.10       | 1.62      | 50     | 1.76      | 103       | 617.28       |
| 100-101                                                                    | 36     | 17    | 470.10       | 1.51      | 27     | 1.63      | 53        | 662.25       |
| 101-102                                                                    | 19     | 9     | 499.35       | 1.40      | 14     | 1.50      | 26        | 714.29       |
| 102-103                                                                    | 10     | 6     | 529.35       | 1.30      | 7      | 1.39      | 12        | 769.23       |
| 103-104                                                                    | 4      | 2     | 561.90       | 1.21      | 3      | 1.28      | 5         | 826.45       |
| 104-105                                                                    | 2      | 1     | 595.17       | 1.12      | 1      | 1.18      | 2         | 892.86       |
| 105-106                                                                    | 1      | 1     | 629.73       | 1.04      | 1      | 1.09      | 1         | 961.54       |

TABLE 46

## LIFE TABLE FOR FEMALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (1,716,933), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE<br>INTERVAL. | Of 100,000 FEMALES BORN<br>ALIVE:                   |                                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND. | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                           | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                                                |                                                            |                                                                               |
|------------------|-----------------------------------------------------|--------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------|
|                  |                                                     |                                                  |                                          |                                                                                               | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                                        | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS. | DEATH RATE<br>PER THOUSAND.                                                   |
|                  | Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval.         | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval.                                                                                                                   | Including only<br>those in current<br>month or year<br>of age. | Population<br>per death in<br>age interval.                | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                               | $d_x$                                            | $1000q_x$                                | $e_x$                                                                                         | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                                      | $T_x$                                                      | $1000l_x/T_x$                                                                 |
| 1                | 2                                                   | 3                                                | 4                                        | 5                                                                                             | 6                                                                                                                                                                                                              | 7                                                              | 8                                                          | 9                                                                             |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            | 100 000 |       | Monthly rate. | In years. |       | Per month. |           | Annual rate. |
| 0-1                                                                | 100 000 | 3 918 | 39.18         | 53.06     | 8 088 | 24.72      | 5 306 158 | 18.85        |
| 1-2                                                                | 96 082  | 1 074 | 11.17         | 55.14     | 7 962 | 88.92      | 5 298 070 | 18.14        |
| 2-3                                                                | 95 008  | 955   | 10.06         | 55.68     | 7 878 | 99.00      | 5 290 108 | 17.96        |
| 3-4                                                                | 94 053  | 862   | 9.17          | 56.16     | 7 802 | 108.60     | 5 282 230 | 17.81        |
| 4-5                                                                | 93 191  | 777   | 8.33          | 56.60     | 7 734 | 119.10     | 5 274 428 | 17.67        |
| 5-6                                                                | 92 414  | 705   | 7.63          | 56.99     | 7 672 | 130.56     | 5 266 694 | 17.55        |
| 6-7                                                                | 91 709  | 641   | 6.99          | 57.34     | 7 616 | 142.56     | 5 259 022 | 17.44        |
| 7-8                                                                | 91 068  | 581   | 6.38          | 57.66     | 7 565 | 156.24     | 5 251 406 | 17.34        |
| 8-9                                                                | 90 487  | 523   | 5.77          | 57.95     | 7 519 | 172.56     | 5 243 811 | 17.26        |
| 9-10                                                               | 89 961  | 467   | 5.20          | 58.20     | 7 478 | 192.12     | 5 236 322 | 17.18        |
| 10-11                                                              | 89 497  | 420   | 4.69          | 58.42     | 7 441 | 212.64     | 5 228 844 | 17.12        |
| 11-12                                                              | 89 077  | 381   | 4.28          | 58.62     | 7 407 | 233.28     | 5 221 403 | 17.06        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           | 100 000 |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 11 304 | 113.04       | 53.06     | 92 162 | 8.15      | 5 306 158 | 18.85        |
| 1-2                                                              | 88 696  | 2 264  | 25.53        | 58.79     | 87 360 | 38.59     | 5 213 996 | 17.01        |
| 2-3                                                              | 86 432  | 918    | 10.63        | 59.31     | 85 945 | 93.62     | 5 126 636 | 16.86        |
| 3-4                                                              | 85 514  | 566    | 6.62         | 58.95     | 85 219 | 150.56    | 5 040 691 | 16.96        |
| 4-5                                                              | 84 948  | 453    | 5.33         | 58.34     | 84 713 | 187.00    | 4 955 472 | 17.14        |
| 5-6                                                              | 84 495  | 382    | 4.53         | 57.65     | 84 304 | 220.69    | 4 870 759 | 17.35        |
| 6-7                                                              | 84 113  | 316    | 3.76         | 56.91     | 83 955 | 265.68    | 4 786 455 | 17.57        |
| 7-8                                                              | 83 797  | 263    | 3.13         | 56.12     | 83 666 | 318.12    | 4 702 500 | 17.82        |
| 8-9                                                              | 83 534  | 221    | 2.65         | 55.29     | 83 424 | 377.48    | 4 618 834 | 18.09        |
| 9-10                                                             | 83 313  | 192    | 2.31         | 54.44     | 83 217 | 433.42    | 4 535 410 | 18.37        |
| 10-11                                                            | 83 121  | 176    | 2.11         | 53.56     | 83 033 | 471.78    | 4 452 193 | 18.67        |
| 11-12                                                            | 82 945  | 168    | 2.03         | 52.68     | 82 861 | 493.22    | 4 369 160 | 18.98        |
| 12-13                                                            | 82 777  | 170    | 2.05         | 51.78     | 82 692 | 486.42    | 4 286 299 | 19.31        |
| 13-14                                                            | 82 607  | 179    | 2.17         | 50.89     | 82 518 | 460.99    | 4 203 607 | 19.65        |
| 14-15                                                            | 82 428  | 195    | 2.37         | 50.00     | 82 330 | 422.21    | 4 121 089 | 20.00        |
| 15-16                                                            | 82 233  | 217    | 2.64         | 49.11     | 82 124 | 378.45    | 4 038 759 | 20.36        |
| 16-17                                                            | 82 016  | 240    | 2.92         | 48.24     | 81 896 | 341.23    | 3 956 635 | 20.73        |
| 17-18                                                            | 81 776  | 258    | 3.17         | 47.38     | 81 647 | 316.46    | 3 874 739 | 21.11        |
| 18-19                                                            | 81 518  | 277    | 3.39         | 46.33     | 81 379 | 293.79    | 3 793 092 | 21.49        |
| 19-20                                                            | 81 241  | 295    | 3.64         | 45.69     | 81 093 | 274.89    | 3 711 713 | 21.89        |
| 20-21                                                            | 80 946  | 315    | 3.89         | 44.85     | 80 788 | 256.47    | 3 630 620 | 22.30        |
| 21-22                                                            | 80 631  | 332    | 4.12         | 44.03     | 80 465 | 242.36    | 3 549 832 | 22.71        |
| 22-23                                                            | 80 299  | 345    | 4.30         | 43.21     | 80 126 | 232.25    | 3 469 367 | 23.14        |
| 23-24                                                            | 79 951  | 357    | 4.46         | 42.39     | 79 775 | 223.46    | 3 389 241 | 23.59        |
| 24-25                                                            | 79 597  | 369    | 4.63         | 41.58     | 79 413 | 215.21    | 3 309 466 | 24.05        |
| 25-26                                                            | 79 228  | 380    | 4.80         | 40.77     | 79 038 | 207.99    | 3 230 053 | 24.53        |
| 26-27                                                            | 78 848  | 392    | 4.98         | 39.96     | 78 652 | 200.64    | 3 151 015 | 25.03        |
| 27-28                                                            | 78 456  | 407    | 5.19         | 39.16     | 78 253 | 192.27    | 3 072 363 | 25.54        |
| 28-29                                                            | 78 049  | 423    | 5.43         | 38.36     | 77 837 | 184.01    | 2 994 110 | 26.07        |
| 29-30                                                            | 77 626  | 442    | 5.68         | 37.57     | 77 405 | 175.12    | 2 916 273 | 26.62        |
| 30-31                                                            | 77 184  | 460    | 5.97         | 36.78     | 76 954 | 167.29    | 2 838 868 | 27.19        |
| 31-32                                                            | 76 724  | 479    | 6.24         | 36.00     | 76 484 | 159.67    | 2 761 914 | 27.78        |
| 32-33                                                            | 76 245  | 493    | 6.46         | 35.22     | 75 998 | 154.15    | 2 685 430 | 28.39        |
| 33-34                                                            | 75 752  | 501    | 6.62         | 34.45     | 75 501 | 150.70    | 2 609 432 | 29.03        |
| 34-35                                                            | 75 251  | 512    | 6.79         | 33.67     | 74 995 | 146.47    | 2 533 931 | 29.70        |
| 35-36                                                            | 74 739  | 519    | 6.96         | 32.90     | 74 480 | 143.51    | 2 458 936 | 30.40        |
| 36-37                                                            | 74 220  | 530    | 7.13         | 32.13     | 73 955 | 139.54    | 2 384 456 | 31.12        |
| 37-38                                                            | 73 690  | 541    | 7.34         | 31.35     | 73 420 | 135.71    | 2 310 501 | 31.90        |
| 38-39                                                            | 73 149  | 555    | 7.59         | 30.58     | 72 872 | 131.30    | 2 237 081 | 32.70        |
| 39-40                                                            | 72 594  | 570    | 7.86         | 29.81     | 72 309 | 126.86    | 2 164 209 | 33.55        |
| 40-41                                                            | 72 024  | 587    | 8.14         | 29.01     | 71 730 | 122.20    | 2 091 900 | 34.44        |
| 41-42                                                            | 71 437  | 604    | 8.46         | 28.28     | 71 135 | 117.77    | 2 020 170 | 35.36        |
| 42-43                                                            | 70 833  | 625    | 8.82         | 27.52     | 70 520 | 112.83    | 1 949 035 | 36.34        |
| 43-44                                                            | 70 208  | 646    | 9.21         | 26.76     | 69 885 | 108.18    | 1 878 515 | 37.37        |
| 44-45                                                            | 69 562  | 671    | 9.65         | 26.00     | 69 226 | 103.17    | 1 808 630 | 38.46        |

## STATE OF MASSACHUSETTS: 1910.

## TABLE 46

REPORTED DEATHS IN 1909 (24,841), IN 1910 (26,093), AND IN 1911 (25,488).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 68 891 | 700   | 10.16        | 25.25     | 68 341 | 97.92     | 1 739 404 | 39.60        |
| 46-47                                                                      | 68 191 | 728   | 10.67        | 24.50     | 67 827 | 93.17     | 1 670 863 | 40.82        |
| 47-48                                                                      | 67 463 | 751   | 11.14        | 23.76     | 67 088 | 89.33     | 1 603 036 | 42.09        |
| 48-49                                                                      | 66 712 | 773   | 11.58        | 23.02     | 66 326 | 85.80     | 1 535 948 | 43.44        |
| 49-50                                                                      | 65 939 | 796   | 12.07        | 22.29     | 65 511 | 82.34     | 1 469 622 | 44.86        |
| 50-51                                                                      | 65 143 | 819   | 12.58        | 21.55     | 64 733 | 79.04     | 1 404 081 | 46.40        |
| 51-52                                                                      | 64 324 | 852   | 13.25        | 20.82     | 63 898 | 75.00     | 1 339 318 | 48.03        |
| 52-53                                                                      | 63 472 | 902   | 14.21        | 20.09     | 63 021 | 69.87     | 1 275 450 | 49.78        |
| 53-54                                                                      | 62 570 | 968   | 15.47        | 19.38     | 62 086 | 64.14     | 1 212 429 | 51.60        |
| 54-55                                                                      | 61 602 | 1 040 | 16.89        | 18.67     | 61 082 | 58.73     | 1 150 343 | 53.56        |
| 55-56                                                                      | 60 562 | 1 125 | 18.57        | 17.99     | 60 000 | 53.33     | 1 089 261 | 55.59        |
| 56-57                                                                      | 59 437 | 1 210 | 20.36        | 17.32     | 58 832 | 48.62     | 1 029 261 | 57.74        |
| 57-58                                                                      | 58 227 | 1 283 | 22.04        | 16.67     | 57 586 | 44.88     | 970 429   | 59.99        |
| 58-59                                                                      | 56 944 | 1 344 | 23.60        | 16.03     | 56 272 | 41.87     | 912 843   | 62.38        |
| 59-60                                                                      | 55 610 | 1 407 | 25.30        | 15.41     | 54 896 | 39.02     | 856 571   | 64.89        |
| 60-61                                                                      | 54 193 | 1 465 | 27.03        | 14.79     | 53 461 | 36.49     | 801 675   | 67.61        |
| 61-62                                                                      | 52 728 | 1 531 | 29.04        | 14.19     | 51 963 | 33.94     | 748 214   | 70.47        |
| 62-63                                                                      | 51 197 | 1 614 | 31.54        | 13.60     | 50 390 | 31.22     | 696 251   | 73.53        |
| 63-64                                                                      | 49 583 | 1 708 | 34.45        | 13.03     | 48 729 | 28.53     | 645 861   | 76.75        |
| 64-65                                                                      | 47 875 | 1 794 | 37.47        | 12.47     | 46 978 | 26.19     | 597 132   | 80.19        |
| 65-66                                                                      | 46 081 | 1 875 | 40.69        | 11.94     | 45 143 | 24.08     | 550 154   | 83.75        |
| 66-67                                                                      | 44 206 | 1 910 | 43.88        | 11.42     | 43 236 | 22.29     | 505 011   | 87.57        |
| 67-68                                                                      | 42 266 | 1 982 | 46.90        | 10.93     | 41 275 | 20.82     | 461 775   | 91.49        |
| 68-69                                                                      | 40 281 | 2 009 | 49.87        | 10.44     | 39 279 | 19.55     | 420 500   | 95.79        |
| 69-70                                                                      | 38 275 | 2 032 | 53.09        | 9.96      | 37 259 | 18.34     | 381 221   | 100.40       |
| 70-71                                                                      | 36 243 | 2 047 | 56.47        | 9.49      | 35 220 | 17.21     | 343 962   | 105.37       |
| 71-72                                                                      | 34 196 | 2 062 | 60.30        | 9.03      | 33 165 | 16.08     | 308 742   | 110.74       |
| 72-73                                                                      | 32 134 | 2 083 | 64.82        | 8.58      | 31 093 | 14.93     | 275 577   | 116.55       |
| 73-74                                                                      | 30 051 | 2 104 | 70.01        | 8.14      | 28 999 | 13.78     | 244 481   | 122.85       |
| 74-75                                                                      | 27 947 | 2 113 | 75.61        | 7.71      | 26 891 | 12.73     | 215 485   | 129.70       |
| 75-76                                                                      | 25 834 | 2 112 | 81.75        | 7.30      | 24 778 | 11.73     | 188 594   | 136.99       |
| 76-77                                                                      | 23 722 | 2 097 | 88.10        | 6.91      | 22 674 | 10.81     | 163 816   | 144.72       |
| 77-78                                                                      | 21 625 | 2 066 | 95.57        | 6.53      | 20 592 | 9.97      | 141 142   | 153.14       |
| 78-79                                                                      | 19 539 | 2 023 | 103.43       | 6.16      | 18 547 | 9.17      | 120 550   | 162.44       |
| 79-80                                                                      | 17 536 | 1 974 | 112.54       | 5.82      | 16 549 | 8.38      | 102 003   | 171.82       |
| 80-81                                                                      | 15 562 | 1 922 | 123.49       | 5.49      | 14 601 | 7.60      | 85 454    | 182.15       |
| 81-82                                                                      | 13 610 | 1 837 | 134.74       | 5.19      | 12 721 | 6.92      | 70 853    | 192.68       |
| 82-83                                                                      | 11 803 | 1 705 | 144.42       | 4.93      | 10 950 | 6.42      | 58 132    | 202.84       |
| 83-84                                                                      | 10 098 | 1 539 | 152.37       | 4.67      | 9 329  | 6.06      | 47 183    | 214.13       |
| 84-85                                                                      | 8 559  | 1 377 | 160.92       | 4.42      | 7 871  | 5.71      | 37 853    | 226.24       |
| 85-86                                                                      | 7 182  | 1 221 | 169.97       | 4.17      | 6 572  | 5.38      | 29 982    | 239.81       |
| 86-87                                                                      | 5 961  | 1 082 | 181.50       | 3.93      | 5 420  | 5.01      | 23 410    | 254.45       |
| 87-88                                                                      | 4 879  | 950   | 194.82       | 3.69      | 4 404  | 4.63      | 17 990    | 271.00       |
| 88-89                                                                      | 3 929  | 826   | 210.06       | 3.46      | 3 516  | 4.26      | 13 586    | 289.02       |
| 89-90                                                                      | 3 103  | 704   | 226.96       | 3.25      | 2 751  | 3.91      | 10 070    | 307.69       |
| 90-91                                                                      | 2 399  | 587   | 244.90       | 3.05      | 2 105  | 3.58      | 7 319     | 327.87       |
| 91-92                                                                      | 1 812  | 477   | 263.05       | 2.89      | 1 573  | 3.30      | 5 214     | 347.22       |
| 92-93                                                                      | 1 335  | 374   | 280.52       | 2.73      | 1 148  | 3.06      | 3 611     | 366.30       |
| 93-94                                                                      | 961    | 285   | 296.71       | 2.60      | 818    | 2.87      | 2 493     | 384.62       |
| 94-95                                                                      | 676    | 211   | 311.39       | 2.48      | 570    | 2.71      | 1 675     | 403.23       |
| 95-96                                                                      | 465    | 151   | 324.77       | 2.38      | 390    | 2.58      | 1 105     | 420.17       |
| 96-97                                                                      | 314    | 106   | 337.37       | 2.28      | 261    | 2.46      | 715       | 438.60       |
| 97-98                                                                      | 208    | 73    | 349.86       | 2.18      | 173    | 2.36      | 454       | 458.72       |
| 98-99                                                                      | 135    | 49    | 362.96       | 2.09      | 111    | 2.26      | 282       | 478.17       |
| 99-100                                                                     | 86     | 32    | 377.21       | 1.99      | 70     | 2.15      | 171       | 502.51       |
| 100-101                                                                    | 54     | 21    | 392.91       | 1.90      | 43     | 2.05      | 101       | 526.32       |
| 101-102                                                                    | 33     | 14    | 410.16       | 1.80      | 26     | 1.91      | 58        | 555.56       |
| 102-103                                                                    | 19     | 8     | 429.67       | 1.70      | 15     | 1.83      | 32        | 588.24       |
| 103-104                                                                    | 11     | 5     | 449.89       | 1.61      | 8      | 1.72      | 17        | 621.12       |
| 104-105                                                                    | 6      | 3     | 471.62       | 1.52      | 5      | 1.62      | 9         | 657.89       |
| 105-106                                                                    | 3      | 1     | 495.04       | 1.43      | 3      | 1.53      | 4         | 699.30       |
| 106-107                                                                    | 2      | 1     | 520.40       | 1.34      | 1      | 1.43      | 2         | 746.27       |
| 107-108                                                                    | 1      | 1     | 547.99       | 1.25      | 1      | 1.33      | 1         | 800.00       |

TABLE 47

## LIFE TABLE FOR MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (1,271,463), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE<br>INTERVAL. | Of 100,000 MALES BORN<br>ALIVE:                     |                                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND. | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                           | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                                                |                                                            |                                                                               |
|------------------|-----------------------------------------------------|--------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------|
|                  |                                                     |                                                  |                                          |                                                                                               | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                                        | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS. | DEATH RATE<br>PER THOUSAND.                                                   |
|                  | Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval.         | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval.                                                                                                               | Including only<br>those in current<br>month or year<br>of age. | Population<br>per death in<br>age interval.                | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                               | $d_x$                                            | $1000q_x$                                | $e_x$                                                                                         | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                                      | $T_x$                                                      | $1000l_x/T_x$                                                                 |
| 1                | 2                                                   | 3                                                | 4                                        | 5                                                                                             | 6                                                                                                                                                                                                          | 7                                                              | 8                                                          | 9                                                                             |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 11 314 | 113.14       | 53.45     | 91 854 | 8.12      | 5 345 346 | 18.71        |
| 1-2                                                              | 88 686  | 2 015  | 23.06        | 59.24     | 87 479 | 42.78     | 5 253 492 | 16.88        |
| 2-3                                                              | 86 611  | 936    | 10.80        | 59.63     | 86 145 | 92.04     | 5 166 013 | 16.77        |
| 3-4                                                              | 85 705  | 568    | 6.63         | 59.27     | 85 410 | 150.37    | 5 079 868 | 16.87        |
| 4-5                                                              | 85 137  | 469    | 5.51         | 58.66     | 84 893 | 181.01    | 4 994 458 | 17.05        |
| 5-6                                                              | 84 668  | 387    | 4.57         | 57.99     | 84 475 | 218.28    | 4 909 565 | 17.24        |
| 6-7                                                              | 84 281  | 320    | 3.80         | 57.25     | 84 121 | 262.88    | 4 825 090 | 17.47        |
| 7-8                                                              | 83 961  | 271    | 3.22         | 56.47     | 83 825 | 309.32    | 4 740 969 | 17.71        |
| 8-9                                                              | 83 690  | 236    | 2.82         | 55.65     | 83 572 | 354.12    | 4 657 144 | 17.97        |
| 9-10                                                             | 83 454  | 215    | 2.58         | 54.80     | 83 347 | 387.66    | 4 573 572 | 18.25        |
| 10-11                                                            | 83 239  | 206    | 2.48         | 53.94     | 83 136 | 403.57    | 4 490 225 | 18.54        |
| 11-12                                                            | 83 033  | 209    | 2.52         | 53.08     | 82 928 | 396.78    | 4 407 089 | 18.84        |
| 12-13                                                            | 82 824  | 221    | 2.66         | 52.21     | 82 713 | 374.27    | 4 324 161 | 19.15        |
| 13-14                                                            | 82 603  | 240    | 2.91         | 51.35     | 82 483 | 343.68    | 4 241 448 | 19.47        |
| 14-15                                                            | 82 363  | 266    | 3.23         | 50.50     | 82 230 | 309.14    | 4 158 965 | 19.80        |
| 15-16                                                            | 82 097  | 298    | 3.62         | 49.66     | 81 918 | 274.99    | 4 076 735 | 20.14        |
| 16-17                                                            | 81 799  | 334    | 4.09         | 48.81     | 81 632 | 244.41    | 3 994 787 | 20.48        |
| 17-18                                                            | 81 465  | 368    | 4.51         | 48.03     | 81 281 | 220.87    | 3 913 155 | 20.82        |
| 18-19                                                            | 81 097  | 390    | 4.82         | 47.25     | 80 902 | 207.44    | 3 831 874 | 21.16        |
| 19-20                                                            | 80 707  | 407    | 5.04         | 46.48     | 80 503 | 197.80    | 3 750 972 | 21.51        |
| 20-21                                                            | 80 300  | 423    | 5.27         | 45.71     | 80 089 | 189.34    | 3 670 469 | 21.88        |
| 21-22                                                            | 79 877  | 441    | 5.52         | 44.95     | 79 656 | 180.63    | 3 590 380 | 22.25        |
| 22-23                                                            | 79 436  | 452    | 5.70         | 44.20     | 79 210 | 175.24    | 3 510 724 | 22.62        |
| 23-24                                                            | 78 981  | 458    | 5.79         | 43.45     | 78 755 | 171.95    | 3 431 514 | 23.01        |
| 24-25                                                            | 78 526  | 457    | 5.83         | 42.70     | 78 297 | 171.33    | 3 352 759 | 23.42        |
| 25-26                                                            | 78 069  | 457    | 5.85         | 41.94     | 77 840 | 170.33    | 3 274 462 | 23.81        |
| 26-27                                                            | 77 612  | 456    | 5.87         | 41.19     | 77 384 | 169.70    | 3 196 622 | 24.28        |
| 27-28                                                            | 77 156  | 454    | 5.85         | 40.43     | 76 931 | 170.58    | 3 119 238 | 24.73        |
| 28-29                                                            | 76 705  | 444    | 5.79         | 39.66     | 76 483 | 172.26    | 3 042 307 | 25.21        |
| 29-30                                                            | 76 261  | 436    | 5.71         | 38.89     | 76 043 | 174.41    | 2 965 824 | 25.71        |
| 30-31                                                            | 75 825  | 426    | 5.62         | 38.11     | 75 612 | 177.49    | 2 889 781 | 26.24        |
| 31-32                                                            | 75 399  | 416    | 5.52         | 37.32     | 75 191 | 180.75    | 2 814 169 | 26.80        |
| 32-33                                                            | 74 983  | 413    | 5.50         | 36.53     | 74 776 | 181.06    | 2 738 978 | 27.37        |
| 33-34                                                            | 74 570  | 419    | 5.62         | 35.73     | 74 360 | 177.47    | 2 664 202 | 27.99        |
| 34-35                                                            | 74 151  | 433    | 5.84         | 34.93     | 73 934 | 170.75    | 2 589 842 | 28.63        |
| 35-36                                                            | 73 718  | 447    | 6.00         | 34.13     | 73 494 | 164.42    | 2 515 908 | 29.30        |
| 36-37                                                            | 73 271  | 461    | 6.29         | 33.33     | 73 041 | 158.44    | 2 442 414 | 30.00        |
| 37-38                                                            | 72 810  | 476    | 6.54         | 32.54     | 72 572 | 152.46    | 2 369 373 | 30.73        |
| 38-39                                                            | 72 334  | 492    | 6.80         | 31.75     | 72 088 | 146.52    | 2 296 801 | 31.50        |
| 39-40                                                            | 71 842  | 508    | 7.07         | 30.97     | 71 588 | 140.92    | 2 224 713 | 32.29        |
| 40-41                                                            | 71 334  | 525    | 7.37         | 30.18     | 71 072 | 135.38    | 2 153 125 | 33.13        |
| 41-42                                                            | 70 809  | 546    | 7.71         | 29.40     | 70 536 | 129.19    | 2 082 053 | 34.01        |
| 42-43                                                            | 70 263  | 563    | 8.01         | 28.63     | 69 981 | 124.30    | 2 011 517 | 34.93        |
| 43-44                                                            | 69 700  | 576    | 8.26         | 27.86     | 69 412 | 120.51    | 1 941 536 | 35.89        |
| 44-45                                                            | 69 124  | 586    | 8.48         | 27.08     | 68 831 | 117.46    | 1 872 124 | 36.93        |

## STATE OF MICHIGAN: 1901.

## TABLE 47

REPORTED DEATHS IN 1900 (18,130), IN 1901 (17,597), AND IN 1902 (17,016).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE<br>INTERVAL. | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                  |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
|                  | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 68 538 | 599   | 8.74         | 26.31     | 68 239 | 113.92    | 1 803 293 | 38.01        |
| 46-47                                                                      | 67 939 | 613   | 9.03         | 25.64     | 67 632 | 110.33    | 1 735 054 | 39.15        |
| 47-48                                                                      | 67 326 | 634   | 9.41         | 24.77     | 67 009 | 105.69    | 1 667 422 | 40.37        |
| 48-49                                                                      | 66 692 | 660   | 9.91         | 24.00     | 66 362 | 100.55    | 1 600 413 | 41.67        |
| 49-50                                                                      | 66 032 | 693   | 10.50        | 23.23     | 65 685 | 94.78     | 1 534 051 | 43.05        |
| 50-51                                                                      | 65 339 | 727   | 11.12        | 22.47     | 64 975 | 89.37     | 1 468 366 | 44.50        |
| 51-52                                                                      | 61 612 | 762   | 11.79        | 21.72     | 64 231 | 84.29     | 1 403 391 | 46.04        |
| 52-53                                                                      | 63 850 | 801   | 12.54        | 20.97     | 63 450 | 79.21     | 1 339 160 | 47.69        |
| 53-54                                                                      | 63 049 | 845   | 13.41        | 20.23     | 62 627 | 74.11     | 1 275 710 | 49.43        |
| 54-55                                                                      | 62 204 | 896   | 14.41        | 19.50     | 61 756 | 68.92     | 1 213 083 | 51.28        |
| 55-56                                                                      | 61 308 | 952   | 15.53        | 18.78     | 60 832 | 63.90     | 1 151 327 | 53.25        |
| 56-57                                                                      | 60 356 | 1 015 | 16.81        | 18.07     | 59 848 | 58.96     | 1 090 495 | 55.34        |
| 57-58                                                                      | 59 341 | 1 074 | 18.11        | 17.37     | 58 804 | 54.75     | 1 030 647 | 57.57        |
| 58-59                                                                      | 58 267 | 1 125 | 19.31        | 16.68     | 57 704 | 51.29     | 971 843   | 59.95        |
| 59-60                                                                      | 57 142 | 1 172 | 20.50        | 16.00     | 56 556 | 48.26     | 914 139   | 62.50        |
| 60-61                                                                      | 55 970 | 1 222 | 21.84        | 15.32     | 55 359 | 45.30     | 857 583   | 65.27        |
| 61-62                                                                      | 54 748 | 1 274 | 23.27        | 14.65     | 54 111 | 42.47     | 802 224   | 68.26        |
| 62-63                                                                      | 53 474 | 1 346 | 25.16        | 13.99     | 52 801 | 39.23     | 748 113   | 71.48        |
| 63-64                                                                      | 52 128 | 1 447 | 27.76        | 13.34     | 51 405 | 35.53     | 695 312   | 74.96        |
| 64-65                                                                      | 50 681 | 1 565 | 30.88        | 12.71     | 49 899 | 31.88     | 643 907   | 78.68        |
| 65-66                                                                      | 49 146 | 1 678 | 34.17        | 12.09     | 48 277 | 28.77     | 594 008   | 82.71        |
| 66-67                                                                      | 47 438 | 1 787 | 37.68        | 11.50     | 46 544 | 26.05     | 545 731   | 86.96        |
| 67-68                                                                      | 45 651 | 1 886 | 41.31        | 10.93     | 44 708 | 23.71     | 499 187   | 91.49        |
| 68-69                                                                      | 43 765 | 1 971 | 45.03        | 10.38     | 42 780 | 21.70     | 454 479   | 96.34        |
| 69-70                                                                      | 41 794 | 2 049 | 49.03        | 9.85      | 40 770 | 19.90     | 411 699   | 101.52       |
| 70-71                                                                      | 39 745 | 2 126 | 53.51        | 9.33      | 38 682 | 18.19     | 370 929   | 107.18       |
| 71-72                                                                      | 37 619 | 2 202 | 58.52        | 8.83      | 36 518 | 16.58     | 332 247   | 113.25       |
| 72-73                                                                      | 35 417 | 2 268 | 64.05        | 8.35      | 34 283 | 15.12     | 295 729   | 119.76       |
| 73-74                                                                      | 33 149 | 2 318 | 69.92        | 7.89      | 31 990 | 13.80     | 261 446   | 126.74       |
| 74-75                                                                      | 30 831 | 2 344 | 76.03        | 7.44      | 29 659 | 12.65     | 229 456   | 134.41       |
| 75-76                                                                      | 28 487 | 2 351 | 82.64        | 7.01      | 27 310 | 11.60     | 199 797   | 142.65       |
| 76-77                                                                      | 26 133 | 2 345 | 89.73        | 6.60      | 24 961 | 10.64     | 172 487   | 151.52       |
| 77-78                                                                      | 23 788 | 2 324 | 97.72        | 6.20      | 22 626 | 9.74      | 147 526   | 161.29       |
| 78-79                                                                      | 21 464 | 2 293 | 106.84       | 5.82      | 20 317 | 8.86      | 124 900   | 171.82       |
| 79-80                                                                      | 19 171 | 2 242 | 116.93       | 5.46      | 18 050 | 8.03      | 104 583   | 183.15       |
| 80-81                                                                      | 16 929 | 2 166 | 127.96       | 5.11      | 15 846 | 7.31      | 86 533    | 195.69       |
| 81-82                                                                      | 14 763 | 2 065 | 139.81       | 4.79      | 13 730 | 6.65      | 70 687    | 208.77       |
| 82-83                                                                      | 12 698 | 1 936 | 152.46       | 4.49      | 11 730 | 6.06      | 56 957    | 222.72       |
| 83-84                                                                      | 10 762 | 1 784 | 165.75       | 4.20      | 9 870  | 5.53      | 45 227    | 238.10       |
| 84-85                                                                      | 8 978  | 1 613 | 179.66       | 3.94      | 8 172  | 5.07      | 35 357    | 253.81       |
| 85-86                                                                      | 7 365  | 1 430 | 194.15       | 3.69      | 6 650  | 4.65      | 27 185    | 271.00       |
| 86-87                                                                      | 5 935  | 1 242 | 209.27       | 3.46      | 5 314  | 4.28      | 20 535    | 289.02       |
| 87-88                                                                      | 4 693  | 1 056 | 225.05       | 3.24      | 4 165  | 3.94      | 15 221    | 308.64       |
| 88-89                                                                      | 3 637  | 878   | 241.56       | 3.04      | 3 198  | 3.64      | 11 056    | 328.95       |
| 89-90                                                                      | 2 759  | 715   | 258.85       | 2.85      | 2 402  | 3.36      | 7 858     | 350.88       |
| 90-91                                                                      | 2 044  | 566   | 276.95       | 2.67      | 1 761  | 3.11      | 5 456     | 374.53       |
| 91-92                                                                      | 1 478  | 437   | 295.91       | 2.50      | 1 260  | 2.88      | 3 695     | 400.00       |
| 92-93                                                                      | 1 041  | 329   | 315.78       | 2.34      | 876    | 2.67      | 2 435     | 427.33       |
| 93-94                                                                      | 712    | 240   | 336.62       | 2.19      | 592    | 2.47      | 1 559     | 456.62       |
| 94-95                                                                      | 472    | 169   | 358.53       | 2.05      | 388    | 2.29      | 967       | 487.80       |
| 95-96                                                                      | 303    | 116   | 381.56       | 1.92      | 245    | 2.12      | 579       | 520.83       |
| 96-97                                                                      | 187    | 76    | 405.77       | 1.79      | 149    | 1.96      | 334       | 558.66       |
| 97-98                                                                      | 111    | 48    | 431.16       | 1.67      | 87     | 1.82      | 185       | 598.80       |
| 98-99                                                                      | 63     | 29    | 457.61       | 1.56      | 49     | 1.69      | 98        | 611.03       |
| 99-100                                                                     | 34     | 16    | 485.28       | 1.46      | 26     | 1.56      | 49        | 684.93       |
| 100-101                                                                    | 18     | 9     | 514.10       | 1.36      | 13     | 1.45      | 23        | 735.29       |
| 101-102                                                                    | 9      | 5     | 544.02       | 1.27      | 6      | 1.34      | 10        | 787.10       |
| 102-103                                                                    | 4      | 2     | 575.03       | 1.18      | 3      | 1.24      | 4         | 847.16       |
| 103-104                                                                    | 2      | 1     | 607.06       | 1.10      | 1      | 1.15      | 1         | 909.09       |
| 104-105                                                                    | 1      | 1     | 640.05       | 1.02      | .....  | 1.06      | .....     | 980.39       |

TABLE 48

## LIFE TABLE FOR MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (1,458,872), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE INTERVAL.                              | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                   | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                       | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            |         |       | Monthly rate. | In years. |       | Per month. |           | Annual rate. |
| 0-1                                                                | 100 000 | 5 177 | 51.77         | 53.86     | 8 010 | 18.60      | 5 385 791 | 18.57        |
| 1-2                                                                | 91 823  | 1 165 | 12.29         | 56.71     | 7 853 | 80.88      | 5 377 781 | 17.63        |
| 2-3                                                                | 93 658  | 927   | 9.89          | 57.31     | 7 766 | 100.56     | 5 369 928 | 17.44        |
| 3-4                                                                | 92 731  | 757   | 8.16          | 57.82     | 7 696 | 122.04     | 5 362 162 | 17.30        |
| 4-5                                                                | 91 974  | 638   | 6.91          | 58.22     | 7 638 | 143.61     | 5 351 466 | 17.18        |
| 5-6                                                                | 91 336  | 515   | 5.97          | 58.51     | 7 589 | 167.04     | 5 346 828 | 17.08        |
| 6-7                                                                | 90 791  | 471   | 5.18          | 58.81     | 7 546 | 192.24     | 5 339 239 | 17.00        |
| 7-8                                                                | 90 320  | 407   | 4.51          | 59.03     | 7 510 | 221.40     | 5 331 693 | 16.94        |
| 8-9                                                                | 89 913  | 361   | 4.01          | 59.21     | 7 478 | 248.52     | 5 324 183 | 16.89        |
| 9-10                                                               | 89 552  | 328   | 3.67          | 59.37     | 7 449 | 272.52     | 5 316 705 | 16.81        |
| 10-11                                                              | 89 221  | 303   | 3.40          | 59.50     | 7 423 | 294.00     | 5 309 256 | 16.81        |
| 11-12                                                              | 88 921  | 289   | 3.25          | 59.62     | 7 398 | 307.20     | 5 301 833 | 16.77        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 11 368 | 113.68       | 53.86     | 91 356 | 8.01      | 5 385 791 | 18.57        |
| 1-2                                                              | 88 632  | 1 833  | 20.67        | 59.74     | 87 551 | 47.76     | 5 291 435 | 16.74        |
| 2-3                                                              | 86 799  | 772    | 8.90         | 59.99     | 86 390 | 111.90    | 5 206 881 | 16.67        |
| 3-4                                                              | 86 027  | 522    | 6.07         | 59.52     | 85 756 | 164.28    | 5 120 494 | 16.80        |
| 4-5                                                              | 85 505  | 422    | 4.93         | 58.88     | 85 286 | 202.10    | 5 034 738 | 16.98        |
| 5-6                                                              | 85 083  | 344    | 4.01         | 58.17     | 84 911 | 246.83    | 4 949 152 | 17.19        |
| 6-7                                                              | 84 739  | 302    | 3.57         | 57.41     | 84 588 | 280.09    | 4 864 511 | 17.42        |
| 7-8                                                              | 84 437  | 267    | 3.16         | 56.64     | 84 303 | 315.74    | 4 779 953 | 17.66        |
| 8-9                                                              | 84 170  | 238    | 2.83         | 55.79     | 84 051 | 353.16    | 4 695 650 | 17.92        |
| 9-10                                                             | 83 932  | 217    | 2.58         | 54.91     | 83 823 | 386.28    | 4 611 599 | 18.20        |
| 10-11                                                            | 83 715  | 203    | 2.43         | 54.09     | 83 613 | 411.89    | 4 527 776 | 18.49        |
| 11-12                                                            | 83 512  | 197    | 2.36         | 53.22     | 83 413 | 423.42    | 4 444 163 | 18.79        |
| 12-13                                                            | 83 315  | 199    | 2.38         | 52.31     | 83 215 | 418.17    | 4 360 750 | 19.11        |
| 13-14                                                            | 83 116  | 206    | 2.48         | 51.46     | 83 013 | 402.98    | 4 277 535 | 19.43        |
| 14-15                                                            | 82 910  | 217    | 2.63         | 50.59     | 82 801 | 381.57    | 4 194 522 | 19.77        |
| 15-16                                                            | 82 693  | 231    | 2.79         | 49.72     | 82 577 | 357.48    | 4 111 721 | 20.11        |
| 16-17                                                            | 82 462  | 253    | 3.07         | 48.86     | 82 335 | 325.43    | 4 029 144 | 20.47        |
| 17-18                                                            | 82 209  | 286    | 3.47         | 48.01     | 82 066 | 286.94    | 3 946 809 | 20.83        |
| 18-19                                                            | 81 923  | 324    | 3.96         | 47.18     | 81 761 | 252.35    | 3 861 713 | 21.20        |
| 19-20                                                            | 81 599  | 362    | 4.44         | 46.36     | 81 418 | 224.91    | 3 782 982 | 21.57        |
| 20-21                                                            | 81 237  | 402    | 4.95         | 45.57     | 81 036 | 201.58    | 3 701 564 | 21.94        |
| 21-22                                                            | 80 835  | 429    | 5.31         | 44.79     | 80 620 | 187.93    | 3 620 528 | 22.33        |
| 22-23                                                            | 80 406  | 435    | 5.40         | 44.03     | 80 189 | 181.34    | 3 539 908 | 22.71        |
| 23-24                                                            | 79 971  | 426    | 5.33         | 43.26     | 79 758 | 187.23    | 3 459 719 | 23.12        |
| 24-25                                                            | 79 545  | 420    | 5.28         | 42.49     | 79 335 | 188.89    | 3 379 961 | 23.53        |
| 25-26                                                            | 79 125  | 414    | 5.22         | 41.71     | 78 918 | 190.62    | 3 300 626 | 23.98        |
| 26-27                                                            | 78 711  | 408    | 5.19         | 40.93     | 78 507 | 192.42    | 3 221 708 | 24.43        |
| 27-28                                                            | 78 303  | 408    | 5.22         | 40.14     | 78 099 | 191.42    | 3 143 201 | 24.91        |
| 28-29                                                            | 77 895  | 413    | 5.29         | 39.35     | 77 689 | 188.11    | 3 065 102 | 25.41        |
| 29-30                                                            | 77 482  | 414    | 5.35         | 38.56     | 77 275 | 186.65    | 2 987 413 | 25.93        |
| 30-31                                                            | 77 068  | 416    | 5.40         | 37.76     | 76 860 | 184.76    | 2 910 138 | 26.48        |
| 31-32                                                            | 76 652  | 420    | 5.48         | 36.96     | 76 442 | 182.00    | 2 833 278 | 27.06        |
| 32-33                                                            | 76 232  | 429    | 5.63         | 36.16     | 76 017 | 177.20    | 2 756 836 | 27.65        |
| 33-34                                                            | 75 803  | 440    | 5.81         | 35.37     | 75 583 | 171.78    | 2 680 819 | 28.27        |
| 34-35                                                            | 75 363  | 453    | 6.00         | 34.57     | 75 136 | 165.86    | 2 605 236 | 28.93        |
| 35-36                                                            | 74 910  | 467    | 6.23         | 33.78     | 74 677 | 159.91    | 2 530 100 | 29.60        |
| 36-37                                                            | 74 443  | 477    | 6.41         | 32.98     | 74 205 | 155.57    | 2 455 423 | 30.32        |
| 37-38                                                            | 73 966  | 481    | 6.51         | 32.19     | 73 725 | 153.27    | 2 381 218 | 31.07        |
| 38-39                                                            | 73 485  | 482    | 6.56         | 31.40     | 73 244 | 151.96    | 2 307 493 | 31.85        |
| 39-40                                                            | 73 003  | 485    | 6.64         | 30.60     | 72 760 | 150.02    | 2 234 249 | 32.68        |
| 40-41                                                            | 72 518  | 467    | 6.71         | 29.81     | 72 275 | 148.41    | 2 161 489 | 33.55        |
| 41-42                                                            | 72 031  | 499    | 6.93         | 29.00     | 71 782 | 143.85    | 2 089 214 | 34.48        |
| 42-43                                                            | 71 532  | 527    | 7.37         | 28.20     | 71 269 | 135.24    | 2 017 432 | 35.46        |
| 43-44                                                            | 71 065  | 567    | 7.98         | 27.41     | 70 722 | 124.73    | 1 946 163 | 36.48        |
| 44-45                                                            | 70 438  | 607    | 8.63         | 26.63     | 70 135 | 115.54    | 1 875 441 | 37.55        |



## STATE OF MICHIGAN: 1910.

## TABLE 48

REPORTED DEATHS IN 1909 (19,622), IN 1910 (21,724), AND IN 1911 (20,855).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE<br>INTERVAL. | OF 100,000 MALES BORN<br>ALIVE:                     |                                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND. | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                           | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                                                |                                                            |                                                                               |
|------------------|-----------------------------------------------------|--------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------|
|                  |                                                     |                                                  |                                          |                                                                                               | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                                        | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS. | DEATH RATE<br>PER THOUSAND.                                                   |
|                  | Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval.         | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval.                                                                                                               | Including only<br>those in current<br>month or year<br>of age. | Population<br>per death in<br>age interval.                | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                               | $d_x$                                            | $1000q_x$                                | $e_x$                                                                                         | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                                      | $T_x$                                                      | $1000L_x/T_x$                                                                 |
| 1                | 2                                                   | 3                                                | 4                                        | 5                                                                                             | 6                                                                                                                                                                                                          | 7                                                              | 8                                                          | 9                                                                             |

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.

| Years.  |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
|---------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| 45-46   | 69 831 | 654   | 9.36         | 25.85     | 69 504 | 106.28    | 1 805 306 | 38.68        |
| 46-47   | 69 177 | 693   | 10.03        | 25.09     | 68 830 | 99.32     | 1 735 802 | 39.86        |
| 47-48   | 68 484 | 719   | 10.50        | 24.31     | 68 124 | 91.75     | 1 666 972 | 41.08        |
| 48-49   | 67 765 | 734   | 10.83        | 23.59     | 67 398 | 91.82     | 1 598 848 | 42.39        |
| 49-50   | 67 031 | 752   | 11.22        | 22.85     | 66 655 | 88.64     | 1 531 450 | 43.76        |
| 50-51   | 66 279 | 769   | 11.60        | 22.10     | 65 895 | 85.69     | 1 464 795 | 45.25        |
| 51-52   | 65 510 | 792   | 12.09        | 21.35     | 65 114 | 82.21     | 1 398 900 | 46.84        |
| 52-53   | 64 718 | 829   | 12.80        | 20.61     | 64 301 | 77.57     | 1 333 786 | 48.52        |
| 53-54   | 63 889 | 877   | 13.74        | 19.87     | 63 450 | 72.35     | 1 269 482 | 50.33        |
| 54-55   | 63 012 | 932   | 14.78        | 19.14     | 62 546 | 67.11     | 1 206 032 | 52.25        |
| 55-56   | 62 080 | 993   | 16.00        | 18.42     | 61 584 | 62.02     | 1 143 486 | 54.29        |
| 56-57   | 61 087 | 1 060 | 17.35        | 17.71     | 60 557 | 57.13     | 1 081 902 | 56.47        |
| 57-58   | 60 027 | 1 125 | 18.74        | 17.01     | 59 461 | 52.86     | 1 021 345 | 58.79        |
| 58-59   | 58 902 | 1 189 | 20.18        | 16.33     | 58 308 | 49.04     | 961 881   | 61.24        |
| 59-60   | 57 713 | 1 258 | 21.80        | 15.66     | 57 084 | 45.38     | 903 573   | 63.86        |
| 60-61   | 56 455 | 1 331 | 23.58        | 14.99     | 55 789 | 41.92     | 846 489   | 66.71        |
| 61-62   | 55 121 | 1 413 | 25.63        | 14.34     | 54 418 | 38.51     | 790 700   | 69.74        |
| 62-63   | 53 711 | 1 504 | 28.00        | 13.71     | 52 959 | 35.21     | 736 282   | 72.94        |
| 63-64   | 52 207 | 1 598 | 30.61        | 13.09     | 51 408 | 32.17     | 683 323   | 76.39        |
| 64-65   | 50 609 | 1 685 | 33.31        | 12.49     | 49 766 | 29.53     | 631 915   | 80.06        |
| 65-66   | 48 924 | 1 767 | 36.11        | 11.90     | 48 010 | 27.19     | 582 149   | 84.03        |
| 66-67   | 47 157 | 1 812 | 39.06        | 11.33     | 46 236 | 25.10     | 534 109   | 88.26        |
| 67-68   | 45 315 | 1 917 | 42.31        | 10.77     | 44 357 | 23.14     | 487 873   | 92.85        |
| 68-69   | 43 398 | 1 997 | 46.02        | 10.22     | 42 400 | 21.23     | 443 516   | 97.85        |
| 69-70   | 41 401 | 2 076 | 50.14        | 9.69      | 40 363 | 19.44     | 401 116   | 103.20       |
| 70-71   | 39 325 | 2 153 | 54.74        | 9.17      | 38 249 | 17.77     | 360 753   | 109.05       |
| 71-72   | 37 172 | 2 231 | 60.02        | 8.68      | 36 057 | 16.16     | 322 504   | 115.21       |
| 72-73   | 34 941 | 2 302 | 65.89        | 8.20      | 33 790 | 14.68     | 286 447   | 121.95       |
| 73-74   | 32 639 | 2 356 | 72.20        | 7.74      | 31 461 | 13.35     | 252 657   | 129.20       |
| 74-75   | 30 283 | 2 396 | 79.10        | 7.30      | 29 085 | 12.14     | 221 196   | 136.99       |
| 75-76   | 27 887 | 2 418 | 86.72        | 6.89      | 26 678 | 11.03     | 192 111   | 145.14       |
| 76-77   | 25 469 | 2 408 | 94.52        | 6.50      | 24 265 | 10.08     | 165 433   | 153.85       |
| 77-78   | 23 061 | 2 361 | 102.11       | 6.12      | 21 881 | 9.27      | 141 168   | 163.40       |
| 78-79   | 20 700 | 2 295 | 110.87       | 5.76      | 19 552 | 8.52      | 119 287   | 173.61       |
| 79-80   | 18 405 | 2 223 | 120.75       | 5.42      | 17 294 | 7.78      | 99 735    | 184.50       |
| 80-81   | 16 182 | 2 147 | 132.70       | 5.09      | 15 109 | 7.04      | 82 411    | 196.46       |
| 81-82   | 14 035 | 2 016 | 145.75       | 4.80      | 13 012 | 6.36      | 67 332    | 208.33       |
| 82-83   | 11 989 | 1 895 | 158.10       | 4.53      | 11 012 | 5.83      | 54 320    | 220.75       |
| 83-84   | 10 094 | 1 711 | 169.52       | 4.29      | 9 238  | 5.40      | 43 278    | 233.10       |
| 84-85   | 8 383  | 1 525 | 181.95       | 4.06      | 7 620  | 5.00      | 34 040    | 246.31       |
| 85-86   | 6 858  | 1 331 | 194.06       | 3.85      | 6 192  | 4.65      | 26 420    | 259.74       |
| 86-87   | 5 527  | 1 137 | 205.74       | 3.66      | 4 958  | 4.36      | 20 228    | 273.22       |
| 87-88   | 4 390  | 953   | 217.10       | 3.48      | 3 913  | 4.11      | 15 270    | 287.36       |
| 88-89   | 3 437  | 786   | 228.55       | 3.30      | 3 044  | 3.88      | 11 357    | 303.03       |
| 89-90   | 2 651  | 638   | 240.69       | 3.14      | 2 332  | 3.65      | 8 313     | 318.47       |
| 90-91   | 2 013  | 511   | 254.05       | 2.97      | 1 757  | 3.44      | 5 981     | 336.70       |
| 91-92   | 1 502  | 401   | 268.83       | 2.81      | 1 300  | 3.22      | 4 224     | 353.87       |
| 92-93   | 1 098  | 313   | 281.78       | 2.66      | 912    | 3.01      | 2 924     | 375.94       |
| 93-94   | 785    | 236   | 301.38       | 2.52      | 667    | 2.82      | 1 982     | 396.83       |
| 94-95   | 549    | 175   | 317.96       | 2.39      | 461    | 2.65      | 1 315     | 418.41       |
| 95-96   | 374    | 125   | 333.99       | 2.28      | 312    | 2.49      | 854       | 438.60       |
| 96-97   | 249    | 87    | 349.27       | 2.17      | 206    | 2.36      | 542       | 460.83       |
| 97-98   | 162    | 59    | 361.20       | 2.06      | 133    | 2.25      | 336       | 485.44       |
| 98-99   | 103    | 39    | 379.63       | 1.96      | 81     | 2.13      | 203       | 510.20       |
| 99-100  | 64     | 25    | 396.65       | 1.85      | 51     | 2.02      | 119       | 540.51       |
| 100-101 | 39     | 16    | 416.23       | 1.75      | 31     | 1.90      | 68        | 571.43       |
| 101-102 | 23     | 10    | 439.14       | 1.63      | 18     | 1.78      | 37        | 613.50       |
| 102-103 | 13     | 6     | 465.60       | 1.52      | 10     | 1.65      | 19        | 657.89       |
| 103-104 | 7      | 4     | 495.34       | 1.41      | 5      | 1.52      | 9         | 709.22       |
| 104-105 | 3      | 1     | 527.78       | 1.31      | 3      | 1.39      | 4         | 763.36       |
| 105-106 | 2      | 1     | 562.42       | 1.21      | 1      | 1.28      | 1         | 826.45       |
| 106-107 | 1      | 1     | 599.01       | 1.11      | -----  | 1.17      | -----     | 900.90       |

TABLE 49

## LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (1,192,215), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR |         |       |              |           |        |           |           |              |
|-----------------------------------------------------------------|---------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                          |         |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                             | 100 000 | 9 113 | 91.43        | 55.07     | 93 508 | 10.23     | 5 506 908 | 18.16        |
| 1-2                                                             | 90 857  | 1 899 | 20.89        | 59.58     | 89 737 | 47.25     | 5 413 400 | 16.78        |
| 2-3                                                             | 88 958  | 862   | 9.70         | 59.81     | 88 501 | 102.67    | 5 323 663 | 16.71        |
| 3-4                                                             | 88 096  | 589   | 6.68         | 59.13     | 87 790 | 149.05    | 5 235 162 | 16.83        |
| 4-5                                                             | 87 507  | 465   | 5.32         | 58.82     | 87 265 | 187.67    | 5 147 372 | 17.00        |
| 5-6                                                             | 87 042  | 369   | 4.24         | 58.13     | 86 857 | 235.38    | 5 060 107 | 17.20        |
| 6-7                                                             | 86 673  | 295   | 3.40         | 57.38     | 86 526 | 293.31    | 4 973 250 | 17.43        |
| 7-8                                                             | 86 378  | 211   | 2.79         | 56.57     | 86 258 | 357.92    | 4 886 724 | 17.68        |
| 8-9                                                             | 86 137  | 205   | 2.38         | 55.73     | 86 035 | 419.68    | 4 800 466 | 17.94        |
| 9-10                                                            | 85 932  | 185   | 2.16         | 54.86     | 85 839 | 463.99    | 4 714 431 | 18.23        |
| 10-11                                                           | 85 717  | 181   | 2.10         | 53.98     | 85 657 | 473.24    | 4 628 592 | 18.53        |
| 11-12                                                           | 85 566  | 186   | 2.18         | 53.09     | 85 473 | 459.53    | 4 542 935 | 18.81        |
| 12-13                                                           | 85 380  | 203   | 2.38         | 52.21     | 85 278 | 420.09    | 4 457 462 | 19.15        |
| 13-14                                                           | 85 177  | 228   | 2.67         | 51.33     | 85 063 | 373.08    | 4 372 184 | 19.48        |
| 14-15                                                           | 84 919  | 258   | 3.04         | 50.47     | 84 820 | 328.76    | 4 287 121 | 19.81        |
| 15-16                                                           | 84 691  | 295   | 3.49         | 49.62     | 84 543 | 286.59    | 4 202 301 | 20.15        |
| 16-17                                                           | 84 396  | 339   | 4.01         | 48.79     | 84 226 | 248.45    | 4 117 758 | 20.50        |
| 17-18                                                           | 84 057  | 378   | 4.49         | 47.99     | 83 868 | 221.87    | 4 033 532 | 20.81        |
| 18-19                                                           | 83 679  | 407   | 4.87         | 47.20     | 83 476 | 205.10    | 3 949 664 | 21.19        |
| 19-20                                                           | 83 272  | 431   | 5.18         | 46.43     | 83 056 | 192.71    | 3 866 188 | 21.51        |
| 20-21                                                           | 82 811  | 457   | 5.51         | 45.67     | 82 612 | 180.77    | 3 783 132 | 21.90        |
| 21-22                                                           | 82 381  | 481   | 5.81         | 44.92     | 82 144 | 170.78    | 3 700 520 | 22.26        |
| 22-23                                                           | 81 903  | 502   | 6.13         | 44.18     | 81 652 | 162.65    | 3 618 376 | 22.63        |
| 23-24                                                           | 81 401  | 518   | 6.36         | 43.45     | 81 142 | 156.64    | 3 536 724 | 23.01        |
| 24-25                                                           | 80 883  | 529   | 6.55         | 42.72     | 80 619 | 152.40    | 3 455 582 | 23.41        |
| 25-26                                                           | 80 351  | 540   | 6.72         | 42.00     | 80 081 | 148.30    | 3 374 963 | 23.81        |
| 26-27                                                           | 79 814  | 551   | 6.90         | 41.28     | 79 538 | 144.35    | 3 294 879 | 24.22        |
| 27-28                                                           | 79 263  | 556   | 7.01         | 40.57     | 78 985 | 142.06    | 3 215 311 | 24.65        |
| 28-29                                                           | 78 707  | 554   | 7.04         | 39.85     | 78 430 | 141.57    | 3 136 356 | 25.09        |
| 29-30                                                           | 78 153  | 548   | 7.01         | 39.13     | 77 879 | 142.11    | 3 057 926 | 25.56        |
| 30-31                                                           | 77 605  | 540   | 6.96         | 38.40     | 77 335 | 143.21    | 2 980 047 | 26.04        |
| 31-32                                                           | 77 065  | 531   | 6.89         | 37.67     | 76 799 | 144.63    | 2 902 712 | 26.55        |
| 32-33                                                           | 76 531  | 526   | 6.86         | 36.92     | 76 271 | 145.00    | 2 825 913 | 27.09        |
| 33-34                                                           | 76 008  | 527   | 6.93         | 36.18     | 75 745 | 143.73    | 2 749 642 | 27.64        |
| 34-35                                                           | 75 481  | 533   | 7.07         | 35.42     | 75 215 | 141.12    | 2 673 897 | 28.23        |
| 35-36                                                           | 74 948  | 539   | 7.19         | 34.67     | 74 678 | 138.55    | 2 598 682 | 28.84        |
| 36-37                                                           | 74 409  | 545   | 7.32         | 33.92     | 74 136 | 136.03    | 2 524 001 | 29.48        |
| 37-38                                                           | 73 861  | 550   | 7.44         | 33.17     | 73 589 | 133.80    | 2 449 868 | 30.15        |
| 38-39                                                           | 73 314  | 553   | 7.55         | 32.41     | 73 038 | 132.08    | 2 376 279 | 30.85        |
| 39-40                                                           | 72 761  | 556   | 7.64         | 31.65     | 72 483 | 130.37    | 2 303 241 | 31.60        |
| 40-41                                                           | 72 205  | 561   | 7.76         | 30.89     | 71 924 | 128.21    | 2 230 758 | 32.37        |
| 41-42                                                           | 71 644  | 566   | 7.91         | 30.13     | 71 361 | 126.08    | 2 158 834 | 33.19        |
| 42-43                                                           | 71 078  | 572   | 8.05         | 29.37     | 70 792 | 123.76    | 2 087 473 | 34.05        |
| 43-44                                                           | 70 506  | 578   | 8.20         | 28.60     | 70 217 | 121.48    | 2 016 681 | 34.97        |
| 44-45                                                           | 69 928  | 585   | 8.36         | 27.84     | 69 635 | 119.03    | 1 946 461 | 35.93        |

## THE STATE OF MICHIGAN: 1901.

TABLE 49

REPORTED DEATHS IN 1900 (15,843), IN 1901 (15,255), AND IN 1902 (14,346).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $l_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 69 343 | 593   | 8.55         | 27.07     | 69 047 | 116.44    | 1 876 829 | 36.94        |
| 46-47                                                                      | 68 750 | 602   | 8.76         | 26.30     | 68 449 | 113.70    | 1 807 782 | 38.02        |
| 47-48                                                                      | 68 148 | 618   | 9.07         | 25.52     | 67 839 | 109.77    | 1 739 333 | 39.18        |
| 48-49                                                                      | 67 530 | 642   | 9.50         | 24.75     | 67 209 | 104.69    | 1 671 494 | 40.40        |
| 49-50                                                                      | 66 888 | 671   | 10.03        | 23.98     | 66 553 | 99.18     | 1 604 285 | 41.70        |
| 50-51                                                                      | 66 217 | 702   | 10.61        | 23.22     | 65 866 | 93.83     | 1 537 732 | 43.07        |
| 51-52                                                                      | 65 515 | 738   | 11.26        | 22.47     | 65 146 | 88.27     | 1 471 866 | 44.50        |
| 52-53                                                                      | 64 777 | 772   | 11.91        | 21.72     | 64 391 | 83.41     | 1 406 720 | 46.04        |
| 53-54                                                                      | 64 005 | 801   | 12.52        | 20.97     | 63 605 | 79.41     | 1 342 329 | 47.69        |
| 54-55                                                                      | 63 204 | 830   | 13.13        | 20.23     | 62 789 | 75.65     | 1 278 724 | 49.43        |
| 55-56                                                                      | 62 374 | 863   | 13.84        | 19.49     | 61 942 | 71.78     | 1 215 935 | 51.31        |
| 56-57                                                                      | 61 511 | 899   | 14.61        | 18.76     | 61 061 | 67.92     | 1 153 993 | 53.30        |
| 57-58                                                                      | 60 612 | 945   | 15.59        | 18.03     | 60 140 | 63.64     | 1 092 932 | 55.46        |
| 58-59                                                                      | 59 667 | 1 008 | 16.89        | 17.31     | 59 163 | 58.69     | 1 032 792 | 57.77        |
| 59-60                                                                      | 58 659 | 1 083 | 18.46        | 16.60     | 58 118 | 53.66     | 973 629   | 60.24        |
| 60-61                                                                      | 57 576 | 1 161 | 20.17        | 15.90     | 56 996 | 49.09     | 915 511   | 62.89        |
| 61-62                                                                      | 56 415 | 1 243 | 22.04        | 15.22     | 55 793 | 44.89     | 858 515   | 65.70        |
| 62-63                                                                      | 55 172 | 1 332 | 24.14        | 14.55     | 54 506 | 40.92     | 802 722   | 68.73        |
| 63-64                                                                      | 53 840 | 1 425 | 26.46        | 13.90     | 53 128 | 37.28     | 748 216   | 71.94        |
| 64-65                                                                      | 52 415 | 1 520 | 29.00        | 13.26     | 51 655 | 33.98     | 695 088   | 75.41        |
| 65-66                                                                      | 50 895 | 1 616 | 31.75        | 12.64     | 50 087 | 30.99     | 643 433   | 79.11        |
| 66-67                                                                      | 49 279 | 1 712 | 34.75        | 12.04     | 48 423 | 28.28     | 593 346   | 83.06        |
| 67-68                                                                      | 47 567 | 1 803 | 37.90        | 11.46     | 46 665 | 25.88     | 544 923   | 87.26        |
| 68-69                                                                      | 45 764 | 1 886 | 41.22        | 10.89     | 44 821 | 23.77     | 498 258   | 91.83        |
| 69-70                                                                      | 43 878 | 1 968 | 44.86        | 10.33     | 42 894 | 21.80     | 453 437   | 96.81        |
| 70-71                                                                      | 41 910 | 2 051 | 48.92        | 9.80      | 40 885 | 19.93     | 410 513   | 102.04       |
| 71-72                                                                      | 39 859 | 2 131 | 53.47        | 9.27      | 38 794 | 18.20     | 369 658   | 107.87       |
| 72-73                                                                      | 37 728 | 2 213 | 58.65        | 8.77      | 36 622 | 16.55     | 330 864   | 114.03       |
| 73-74                                                                      | 35 515 | 2 289 | 64.46        | 8.29      | 34 371 | 15.02     | 294 242   | 120.63       |
| 74-75                                                                      | 33 226 | 2 351 | 70.77        | 7.82      | 32 050 | 13.63     | 259 871   | 127.88       |
| 75-76                                                                      | 30 873 | 2 398 | 77.66        | 7.38      | 29 676 | 12.38     | 227 821   | 135.50       |
| 76-77                                                                      | 28 477 | 2 427 | 85.22        | 6.96      | 27 261 | 11.23     | 198 145   | 143.68       |
| 77-78                                                                      | 26 050 | 2 440 | 93.67        | 6.56      | 24 830 | 10.16     | 170 881   | 152.44       |
| 78-79                                                                      | 23 610 | 2 429 | 102.90       | 6.19      | 22 395 | 9.22      | 146 051   | 161.55       |
| 79-80                                                                      | 21 181 | 2 388 | 112.74       | 5.84      | 19 957 | 8.37      | 123 656   | 171.23       |
| 80-81                                                                      | 18 793 | 2 311 | 122.95       | 5.52      | 17 637 | 7.63      | 103 669   | 181.16       |
| 81-82                                                                      | 16 482 | 2 196 | 133.22       | 5.22      | 15 384 | 7.01      | 86 032    | 191.57       |
| 82-83                                                                      | 14 286 | 2 047 | 143.30       | 4.95      | 13 263 | 6.18      | 70 648    | 202.02       |
| 83-84                                                                      | 12 239 | 1 873 | 153.09       | 4.69      | 11 302 | 6.03      | 57 385    | 213.22       |
| 84-85                                                                      | 10 366 | 1 687 | 162.67       | 4.45      | 9 522  | 5.65      | 46 083    | 224.72       |
| 85-86                                                                      | 8 679  | 1 495 | 172.30       | 4.21      | 7 932  | 5.30      | 36 561    | 237.53       |
| 86-87                                                                      | 7 184  | 1 310 | 182.39       | 3.99      | 6 529  | 4.98      | 28 629    | 250.63       |
| 87-88                                                                      | 5 874  | 1 136 | 193.36       | 3.76      | 5 306  | 4.67      | 22 100    | 265.96       |
| 88-89                                                                      | 4 738  | 974   | 205.55       | 3.54      | 4 251  | 4.36      | 16 794    | 282.49       |
| 89-90                                                                      | 3 764  | 825   | 219.17       | 3.33      | 3 352  | 4.06      | 12 543    | 300.30       |
| 90-91                                                                      | 2 939  | 688   | 234.27       | 3.13      | 2 595  | 3.77      | 9 191     | 319.49       |
| 91-92                                                                      | 2 251  | 565   | 250.74       | 2.93      | 1 968  | 3.49      | 6 596     | 341.30       |
| 92-93                                                                      | 1 686  | 452   | 268.44       | 2.75      | 1 460  | 3.23      | 4 628     | 363.64       |
| 93-94                                                                      | 1 234  | 355   | 287.21       | 2.57      | 1 056  | 2.98      | 3 168     | 389.11       |
| 94-95                                                                      | 879    | 270   | 307.00       | 2.40      | 744    | 2.76      | 2 112     | 416.67       |
| 95-96                                                                      | 609    | 199   | 327.85       | 2.25      | 509    | 2.55      | 1 368     | 444.44       |
| 96-97                                                                      | 410    | 144   | 349.82       | 2.10      | 338    | 2.36      | 859       | 476.19       |
| 97-98                                                                      | 266    | 99    | 373.02       | 1.96      | 217    | 2.18      | 521       | 510.20       |
| 98-99                                                                      | 167    | 66    | 397.53       | 1.83      | 134    | 2.02      | 304       | 516.45       |
| 99-100                                                                     | 101    | 43    | 423.40       | 1.70      | 79     | 1.86      | 170       | 588.24       |
| 100-101                                                                    | 58     | 26    | 450.59       | 1.58      | 45     | 1.72      | 91        | 632.91       |
| 101-102                                                                    | 32     | 15    | 479.26       | 1.47      | 24     | 1.59      | 46        | 680.27       |
| 102-103                                                                    | 17     | 9     | 509.39       | 1.37      | 13     | 1.46      | 22        | 729.93       |
| 103-104                                                                    | 8      | 4     | 540.98       | 1.27      | 6      | 1.35      | 10        | 787.40       |
| 104-105                                                                    | 4      | 2     | 574.06       | 1.18      | 3      | 1.24      | 4         | 847.46       |
| 105-106                                                                    | 2      | 1     | 608.61       | 1.09      | 1      | 1.14      | 1         | 917.43       |
| 106-107                                                                    | 1      | 1     | 644.61       | 1.01      | .....  | 1.05      | .....     | 990.10       |

TABLE 50

## LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (1,359,511), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE INTERVAL. | OF 100,000 FEMALES BORN ALIVE:             |                                            | RATE OF MORTALITY PER THOUSAND. | COMPLETE EXPECTATION OF LIFE.                                                | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                                       |                                                    |                                                                    |
|---------------|--------------------------------------------|--------------------------------------------|---------------------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------|
|               |                                            |                                            |                                 |                                                                              | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS. | DEATH RATE PER THOUSAND.                                           |
|               | Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval.   | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval.                                                                                                                            | Including only those in current month or year of age. | Population per death in age interval.              | Sum of numbers in column 6 in current and all older age intervals. |
| $x$ to $x+1$  | $l_x$                                      | $d_x$                                      | $1000q_x$                       | $e_x$                                                                        | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                                             | $T_x$                                              | $1000l_x/T_x$                                                      |
| 1             | 2                                          | 3                                          | 4                               | 5                                                                            | 6                                                                                                                                                                                                           | 7                                                     | 8                                                  | 9                                                                  |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            |         |       | Monthly rate. | In years. |       | Per month. |           | Annual rate. |
| 0-1                                                                | 100 000 | 3 955 | 39.55         | 56.24     | 8 086 | 24.18      | 5 623 970 | 17.78        |
| 1-2                                                                | 96 015  | 895   | 9.32          | 58.47     | 7 966 | 106.80     | 5 615 881 | 17.10        |
| 2-3                                                                | 95 150  | 755   | 7.94          | 58.91     | 7 898 | 125.52     | 5 607 918 | 16.97        |
| 3-4                                                                | 91 395  | 631   | 6.68          | 59.33     | 7 810 | 149.04     | 5 600 020 | 16.85        |
| 4-5                                                                | 93 761  | 528   | 5.64          | 59.61     | 7 792 | 177.12     | 5 592 180 | 16.77        |
| 5-6                                                                | 93 236  | 458   | 4.91          | 59.90     | 7 751 | 203.01     | 5 584 388 | 16.69        |
| 6-7                                                                | 92 778  | 405   | 4.36          | 60.11     | 7 715 | 228.60     | 5 576 637 | 16.61        |
| 7-8                                                                | 92 373  | 359   | 3.88          | 60.29     | 7 683 | 256.80     | 5 568 922 | 16.59        |
| 8-9                                                                | 92 014  | 317   | 3.45          | 60.41     | 7 655 | 289.80     | 5 561 239 | 16.55        |
| 9-10                                                               | 91 697  | 288   | 3.15          | 60.56     | 7 629 | 317.88     | 5 553 581 | 16.51        |
| 10-11                                                              | 91 409  | 273   | 2.98          | 60.67     | 7 606 | 334.32     | 5 545 955 | 16.48        |
| 11-12                                                              | 91 136  | 266   | 2.92          | 60.77     | 7 581 | 342.12     | 5 538 349 | 16.46        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |       |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 9 130 | 91.30        | 56.24     | 93 205 | 10.21     | 5 623 970 | 17.78        |
| 1-2                                                              | 90 870  | 1 712 | 18.81        | 60.86     | 89 860 | 52.49     | 5 530 765 | 16.43        |
| 2-3                                                              | 89 158  | 775   | 8.69         | 61.03     | 88 747 | 114.51    | 5 440 905 | 16.39        |
| 3-4                                                              | 88 383  | 519   | 5.87         | 60.56     | 88 113 | 169.77    | 5 352 158 | 16.51        |
| 4-5                                                              | 87 861  | 362   | 4.12         | 59.91     | 87 676 | 242.20    | 5 261 015 | 16.69        |
| 5-6                                                              | 87 502  | 324   | 3.70         | 59.16     | 87 340 | 269.57    | 5 176 369 | 16.90        |
| 6-7                                                              | 87 178  | 276   | 3.17         | 58.38     | 87 040 | 315.36    | 5 089 029 | 17.13        |
| 7-8                                                              | 86 902  | 237   | 2.72         | 57.56     | 86 783 | 366.17    | 5 001 989 | 17.37        |
| 8-9                                                              | 86 665  | 206   | 2.37         | 56.72     | 86 562 | 420.20    | 4 915 206 | 17.63        |
| 9-10                                                             | 86 459  | 181   | 2.13         | 55.85     | 86 367 | 469.39    | 4 828 644 | 17.91        |
| 10-11                                                            | 86 275  | 173   | 2.00         | 54.97     | 86 188 | 498.20    | 4 742 277 | 18.19        |
| 11-12                                                            | 86 102  | 170   | 1.98         | 54.08     | 86 017 | 505.98    | 4 656 089 | 18.49        |
| 12-13                                                            | 85 932  | 177   | 2.05         | 53.18     | 85 843 | 481.99    | 4 570 072 | 18.80        |
| 13-14                                                            | 85 755  | 189   | 2.21         | 52.29     | 85 661 | 453.23    | 4 484 229 | 19.12        |
| 14-15                                                            | 85 566  | 207   | 2.42         | 51.41     | 85 463 | 412.86    | 4 398 569 | 19.45        |
| 15-16                                                            | 85 359  | 227   | 2.66         | 50.53     | 85 246 | 375.53    | 4 313 105 | 19.79        |
| 16-17                                                            | 85 132  | 253   | 2.98         | 49.66     | 85 006 | 335.99    | 4 227 859 | 20.14        |
| 17-18                                                            | 84 879  | 288   | 3.40         | 48.81     | 84 735 | 291.22    | 4 142 853 | 20.49        |
| 18-19                                                            | 84 591  | 328   | 3.88         | 47.97     | 84 427 | 257.40    | 4 058 118 | 20.85        |
| 19-20                                                            | 84 263  | 368   | 4.36         | 47.16     | 84 079 | 228.48    | 3 973 691 | 21.20        |
| 20-21                                                            | 83 895  | 410   | 4.89         | 46.36     | 83 690 | 201.12    | 3 889 612 | 21.57        |
| 21-22                                                            | 83 485  | 440   | 5.27         | 45.59     | 83 265 | 189.24    | 3 805 922 | 21.93        |
| 22-23                                                            | 83 015  | 449   | 5.41         | 44.83     | 82 821 | 181.46    | 3 722 657 | 22.31        |
| 23-24                                                            | 82 596  | 445   | 5.39         | 44.07     | 82 373 | 185.11    | 3 639 836 | 22.69        |
| 24-25                                                            | 82 151  | 444   | 5.40         | 43.30     | 81 929 | 181.52    | 3 557 463 | 23.09        |
| 25-26                                                            | 81 707  | 440   | 5.39         | 42.51     | 81 487 | 185.20    | 3 475 534 | 23.51        |
| 26-27                                                            | 81 267  | 438   | 5.39         | 41.76     | 81 048 | 185.04    | 3 394 047 | 23.95        |
| 27-28                                                            | 80 829  | 440   | 5.45         | 40.99     | 80 609 | 183.20    | 3 312 999 | 24.40        |
| 28-29                                                            | 80 389  | 446   | 5.51         | 40.21     | 80 166 | 179.74    | 3 232 390 | 24.87        |
| 29-30                                                            | 79 943  | 448   | 5.61         | 39.43     | 79 719 | 177.94    | 3 152 224 | 25.36        |
| 30-31                                                            | 79 495  | 450   | 5.66         | 38.65     | 79 270 | 176.16    | 3 072 505 | 25.87        |
| 31-32                                                            | 79 045  | 455   | 5.76         | 37.87     | 78 817 | 173.22    | 2 993 235 | 26.41        |
| 32-33                                                            | 78 590  | 468   | 5.95         | 37.08     | 78 356 | 167.43    | 2 914 418 | 26.97        |
| 33-34                                                            | 78 122  | 483   | 6.18         | 36.30     | 77 881 | 161.24    | 2 836 062 | 27.55        |
| 34-35                                                            | 77 639  | 498   | 6.42         | 35.53     | 77 390 | 155.40    | 2 758 181 | 28.15        |
| 35-36                                                            | 77 141  | 517   | 6.69         | 34.75     | 76 883 | 148.71    | 2 680 791 | 28.78        |
| 36-37                                                            | 76 624  | 526   | 6.87         | 33.98     | 76 361 | 145.17    | 2 603 908 | 29.43        |
| 37-38                                                            | 76 098  | 524   | 6.89         | 33.21     | 75 836 | 144.73    | 2 527 547 | 30.11        |
| 38-39                                                            | 75 571  | 515   | 6.81         | 32.44     | 75 317 | 146.25    | 2 451 711 | 30.83        |
| 39-40                                                            | 75 039  | 507   | 6.76         | 31.66     | 74 806 | 147.55    | 2 376 394 | 31.59        |
| 40-41                                                            | 74 502  | 500   | 6.70         | 30.87     | 74 302 | 148.60    | 2 301 588 | 32.39        |
| 41-42                                                            | 74 052  | 500   | 6.75         | 30.08     | 73 802 | 147.60    | 2 227 286 | 33.24        |
| 42-43                                                            | 73 552  | 511   | 6.99         | 29.28     | 73 295 | 142.60    | 2 153 481 | 34.15        |
| 43-44                                                            | 73 038  | 539   | 7.38         | 28.48     | 72 769 | 135.01    | 2 080 189 | 35.11        |
| 44-45                                                            | 72 499  | 561   | 7.78         | 27.69     | 72 217 | 128.04    | 2 007 420 | 36.11        |

## THE STATE OF MICHIGAN: 1910.

## TABLE 50

REPORTED DEATHS IN 1909 (16,638), IN 1910 (18,164), AND IN 1911 (17,138).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE<br>INTERVAL.                                    | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000/L_x/T_x$                                                                                                  |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 71 935 | 591   | 8.22         | 26.90     | 71 610 | 121.22    | 1 935 203 | 37.17        |
| 46-47                                                                      | 71 344 | 631   | 8.70         | 26.12     | 71 034 | 111.39    | 1 863 563 | 38.28        |
| 47-48                                                                      | 70 723 | 650   | 9.20         | 25.35     | 70 398 | 108.30    | 1 792 529 | 39.45        |
| 48-49                                                                      | 70 073 | 680   | 9.70         | 24.58     | 69 733 | 102.55    | 1 722 131 | 40.68        |
| 49-50                                                                      | 69 393 | 711   | 10.25        | 23.81     | 69 037 | 97.10     | 1 652 398 | 42.00        |
| 50-51                                                                      | 68 682 | 744   | 10.83        | 23.05     | 68 310 | 91.81     | 1 583 361 | 43.38        |
| 51-52                                                                      | 67 938 | 775   | 11.42        | 22.30     | 67 550 | 87.16     | 1 515 051 | 44.84        |
| 52-53                                                                      | 67 163 | 810   | 12.06        | 21.55     | 66 758 | 82.42     | 1 447 501 | 46.40        |
| 53-54                                                                      | 66 353 | 849   | 12.79        | 20.81     | 65 928 | 77.65     | 1 380 743 | 48.05        |
| 54-55                                                                      | 65 501 | 893   | 13.64        | 20.07     | 65 057 | 72.85     | 1 314 815 | 49.83        |
| 55-56                                                                      | 64 611 | 946   | 14.64        | 19.34     | 64 138 | 67.80     | 1 249 758 | 51.71        |
| 56-57                                                                      | 63 665 | 1 002 | 15.74        | 18.62     | 63 164 | 63.01     | 1 185 620 | 53.71        |
| 57-58                                                                      | 62 663 | 1 057 | 16.86        | 17.91     | 62 134 | 58.78     | 1 122 456 | 55.83        |
| 58-59                                                                      | 61 606 | 1 109 | 18.00        | 17.21     | 61 052 | 55.05     | 1 060 322 | 58.11        |
| 59-60                                                                      | 60 497 | 1 165 | 19.27        | 16.52     | 59 914 | 51.43     | 999 270   | 60.53        |
| 60-61                                                                      | 59 332 | 1 224 | 20.62        | 15.83     | 58 720 | 47.97     | 939 356   | 63.17        |
| 61-62                                                                      | 58 108 | 1 291 | 22.22        | 15.16     | 57 462 | 44.51     | 880 636   | 65.96        |
| 62-63                                                                      | 56 817 | 1 373 | 24.16        | 14.49     | 56 130 | 40.88     | 823 174   | 69.01        |
| 63-64                                                                      | 55 441 | 1 462 | 26.37        | 13.83     | 54 713 | 37.42     | 767 044   | 72.31        |
| 64-65                                                                      | 53 982 | 1 547 | 28.67        | 13.20     | 53 208 | 34.39     | 712 331   | 75.76        |
| 65-66                                                                      | 52 435 | 1 628 | 31.04        | 12.57     | 51 621 | 31.71     | 659 123   | 79.55        |
| 66-67                                                                      | 50 807 | 1 713 | 33.72        | 11.96     | 49 951 | 29.16     | 607 502   | 83.61        |
| 67-68                                                                      | 49 094 | 1 815 | 36.97        | 11.36     | 48 187 | 26.55     | 557 551   | 88.03        |
| 68-69                                                                      | 47 279 | 1 932 | 40.87        | 10.77     | 46 313 | 23.97     | 509 364   | 92.85        |
| 69-70                                                                      | 45 347 | 2 052 | 45.24        | 10.21     | 44 321 | 21.60     | 463 051   | 97.94        |
| 70-71                                                                      | 43 295 | 2 175 | 50.24        | 9.67      | 42 208 | 19.41     | 418 730   | 103.41       |
| 71-72                                                                      | 41 120 | 2 293 | 55.78        | 9.16      | 39 973 | 17.43     | 376 522   | 109.17       |
| 72-73                                                                      | 38 827 | 2 388 | 61.50        | 8.67      | 37 633 | 15.76     | 336 549   | 115.34       |
| 73-74                                                                      | 36 439 | 2 451 | 67.26        | 8.20      | 35 213 | 14.37     | 298 916   | 121.95       |
| 74-75                                                                      | 33 988 | 2 501 | 73.58        | 7.76      | 32 738 | 13.09     | 263 703   | 128.87       |
| 75-76                                                                      | 31 487 | 2 535 | 80.51        | 7.34      | 30 220 | 11.92     | 230 965   | 136.24       |
| 76-77                                                                      | 28 952 | 2 529 | 87.38        | 6.93      | 27 687 | 10.95     | 200 745   | 144.30       |
| 77-78                                                                      | 26 423 | 2 487 | 94.10        | 6.55      | 25 179 | 10.12     | 173 058   | 152.67       |
| 78-79                                                                      | 23 936 | 2 420 | 101.13       | 6.18      | 22 726 | 9.39      | 147 879   | 161.81       |
| 79-80                                                                      | 21 516 | 2 350 | 109.21       | 5.82      | 20 341 | 8.66      | 125 153   | 171.82       |
| 80-81                                                                      | 19 166 | 2 275 | 118.71       | 5.47      | 18 028 | 7.92      | 104 812   | 182.82       |
| 81-82                                                                      | 16 891 | 2 186 | 129.41       | 5.14      | 15 798 | 7.23      | 86 784    | 194.55       |
| 82-83                                                                      | 14 705 | 2 065 | 140.40       | 4.83      | 13 673 | 6.63      | 70 986    | 207.04       |
| 83-84                                                                      | 12 610 | 1 910 | 151.16       | 4.53      | 11 685 | 6.12      | 57 313    | 220.75       |
| 84-85                                                                      | 10 730 | 1 747 | 162.78       | 4.25      | 9 856  | 5.64      | 45 628    | 235.29       |
| 85-86                                                                      | 8 983  | 1 580 | 175.91       | 3.98      | 8 193  | 5.18      | 35 772    | 251.26       |
| 86-87                                                                      | 7 403  | 1 411 | 190.57       | 3.73      | 6 697  | 4.75      | 27 579    | 268.10       |
| 87-88                                                                      | 5 992  | 1 240 | 206.98       | 3.49      | 5 372  | 4.33      | 20 682    | 286.53       |
| 88-89                                                                      | 4 752  | 1 069 | 224.98       | 3.26      | 4 217  | 3.94      | 15 510    | 306.75       |
| 89-90                                                                      | 3 683  | 899   | 243.99       | 3.07      | 3 234  | 3.60      | 11 293    | 325.73       |
| 90-91                                                                      | 2 784  | 732   | 262.96       | 2.89      | 2 418  | 3.30      | 8 059     | 346.02       |
| 91-92                                                                      | 2 052  | 576   | 280.68       | 2.75      | 1 761  | 3.06      | 5 611     | 363.61       |
| 92-93                                                                      | 1 476  | 437   | 296.17       | 2.63      | 1 258  | 2.88      | 3 877     | 380.23       |
| 93-94                                                                      | 1 039  | 321   | 309.12       | 2.52      | 878    | 2.73      | 2 619     | 396.83       |
| 94-95                                                                      | 718    | 230   | 319.99       | 2.43      | 603    | 2.63      | 1 741     | 411.52       |
| 95-96                                                                      | 488    | 161   | 329.89       | 2.33      | 408    | 2.53      | 1 138     | 429.18       |
| 96-97                                                                      | 327    | 111   | 340.19       | 2.24      | 271    | 2.41      | 730       | 446.43       |
| 97-98                                                                      | 216    | 76    | 352.39       | 2.13      | 178    | 2.31      | 459       | 469.48       |
| 98-99                                                                      | 140    | 52    | 367.66       | 2.02      | 114    | 2.22      | 281       | 495.05       |
| 99-100                                                                     | 88     | 34    | 386.49       | 1.90      | 71     | 2.09      | 167       | 526.32       |
| 100-101                                                                    | 54     | 22    | 408.61       | 1.78      | 43     | 1.95      | 96        | 561.80       |
| 101-102                                                                    | 32     | 14    | 433.40       | 1.66      | 25     | 1.81      | 53        | 602.41       |
| 102-103                                                                    | 18     | 8     | 460.02       | 1.55      | 14     | 1.67      | 28        | 645.16       |
| 103-104                                                                    | 10     | 5     | 487.90       | 1.45      | 7      | 1.55      | 14        | 689.66       |
| 104-105                                                                    | 5      | 3     | 516.79       | 1.35      | 4      | 1.43      | 7         | 740.74       |
| 105-106                                                                    | 2      | 1     | 546.83       | 1.26      | 2      | 1.33      | 3         | 793.65       |
| 106-107                                                                    | 1      | 1     | 578.58       | 1.17      | 1      | 1.23      | 1         | 851.70       |

TABLE 51

## LIFE TABLE FOR MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (979,411), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE<br>INTERVAL. | OF 100,000 MALES BORN<br>ALIVE:                     |                                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND. | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                           | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                                                |                                                            |                                                                               |
|------------------|-----------------------------------------------------|--------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------|
|                  |                                                     |                                                  |                                          |                                                                                               | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                                        | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS. | DEATH RATE<br>PER THOUSAND.                                                   |
|                  | Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval.         | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval.                                                                                                               | Including only<br>those in current<br>month or year<br>of age. | Population<br>per death in<br>age interval.                | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                               | $d_x$                                            | $1000q_x$                                | $e_x$                                                                                         | $I_x$                                                                                                                                                                                                      | $L_x/d_x$                                                      | $T_x$                                                      | $1000l_x/T_x$                                                                 |
| 1                | 2                                                   | 3                                                | 4                                        | 5                                                                                             | 6                                                                                                                                                                                                          | 7                                                              | 8                                                          | 9                                                                             |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 14 288 | 142.88       | 46.38     | 89 713 | 6.28      | 4 637 586 | 21.56        |
| 1-2                                                              | 85 712  | 3 016  | 35.54        | 53.06     | 83 915 | 27.55     | 4 547 873 | 18.85        |
| 2-3                                                              | 82 666  | 1 462  | 17.68        | 51.00     | 81 891 | 56.01     | 4 463 958 | 18.62        |
| 3-4                                                              | 81 204  | 826    | 10.17        | 53.96     | 80 775 | 97.79     | 4 382 067 | 18.53        |
| 4-5                                                              | 80 378  | 668    | 8.31         | 53.51     | 80 031 | 119.81    | 4 301 292 | 18.69        |
| 5-6                                                              | 79 710  | 512    | 6.81         | 52.96     | 79 439 | 146.57    | 4 221 261 | 18.88        |
| 6-7                                                              | 79 168  | 410    | 5.55         | 52.32     | 78 948 | 179.43    | 4 141 822 | 19.11        |
| 7-8                                                              | 78 728  | 357    | 4.53         | 51.61     | 78 549 | 220.03    | 4 062 874 | 19.38        |
| 8-9                                                              | 78 371  | 293    | 3.74         | 50.84     | 78 224 | 266.98    | 3 984 325 | 19.67        |
| 9-10                                                             | 78 078  | 247    | 3.16         | 50.03     | 77 954 | 315.60    | 3 906 101 | 19.99        |
| 10-11                                                            | 77 831  | 218    | 2.80         | 49.19     | 77 722 | 356.52    | 3 828 147 | 20.33        |
| 11-12                                                            | 77 613  | 204    | 2.63         | 48.32     | 77 511 | 379.96    | 3 750 425 | 20.70        |
| 12-13                                                            | 77 409  | 204    | 2.64         | 47.45     | 77 307 | 378.96    | 3 672 914 | 21.07        |
| 13-14                                                            | 77 205  | 218    | 2.82         | 46.57     | 77 096 | 353.65    | 3 595 607 | 21.47        |
| 14-15                                                            | 76 987  | 211    | 3.14         | 45.70     | 76 867 | 318.95    | 3 518 511 | 21.88        |
| 15-16                                                            | 76 716  | 276    | 3.60         | 44.84     | 76 608 | 277.57    | 3 441 644 | 22.30        |
| 16-17                                                            | 76 470  | 321    | 4.20         | 44.00     | 76 309 | 237.72    | 3 365 036 | 22.73        |
| 17-18                                                            | 76 149  | 363    | 4.77         | 43.19     | 75 967 | 209.28    | 3 288 727 | 23.15        |
| 18-19                                                            | 75 786  | 393    | 5.19         | 42.39     | 75 589 | 192.34    | 3 212 760 | 23.59        |
| 19-20                                                            | 75 393  | 415    | 5.50         | 41.61     | 75 185 | 181.17    | 3 137 171 | 24.03        |
| 20-21                                                            | 74 978  | 410    | 5.86         | 40.84     | 74 758 | 169.90    | 3 061 986 | 24.49        |
| 21-22                                                            | 74 548  | 401    | 6.22         | 40.08     | 74 306 | 160.14    | 2 987 228 | 24.95        |
| 22-23                                                            | 74 074  | 486    | 6.57         | 39.32     | 73 831 | 151.92    | 2 912 922 | 25.43        |
| 23-24                                                            | 73 588  | 509    | 6.91         | 38.58     | 73 334 | 144.07    | 2 839 091 | 25.92        |
| 24-25                                                            | 73 079  | 528    | 7.24         | 37.85     | 72 815 | 137.91    | 2 765 757 | 26.42        |
| 25-26                                                            | 72 551  | 548    | 7.55         | 37.12     | 72 277 | 131.89    | 2 692 942 | 26.94        |
| 26-27                                                            | 72 003  | 566    | 7.86         | 36.40     | 71 720 | 126.71    | 2 620 665 | 27.47        |
| 27-28                                                            | 71 437  | 581    | 8.13         | 35.68     | 71 146 | 122.45    | 2 548 945 | 28.03        |
| 28-29                                                            | 70 856  | 592    | 8.35         | 34.97     | 70 560 | 119.19    | 2 477 799 | 28.60        |
| 29-30                                                            | 70 261  | 600    | 8.54         | 34.26     | 69 964 | 116.61    | 2 407 239 | 29.19        |
| 30-31                                                            | 69 664  | 608    | 8.73         | 33.55     | 69 360 | 114.08    | 2 337 275 | 29.81        |
| 31-32                                                            | 69 056  | 615    | 8.91         | 32.84     | 68 749 | 111.79    | 2 267 915 | 30.45        |
| 32-33                                                            | 68 441  | 626    | 9.14         | 32.13     | 68 128 | 108.83    | 2 199 166 | 31.12        |
| 33-34                                                            | 67 815  | 612    | 9.48         | 31.42     | 67 494 | 105.13    | 2 131 038 | 31.83        |
| 34-35                                                            | 67 173  | 663    | 9.87         | 30.72     | 66 841 | 100.82    | 2 063 544 | 32.55        |
| 35-36                                                            | 66 510  | 683    | 10.26        | 30.02     | 66 168 | 96.88     | 1 996 703 | 33.31        |
| 36-37                                                            | 65 827  | 703    | 10.68        | 29.33     | 65 476 | 93.14     | 1 930 535 | 34.09        |
| 37-38                                                            | 65 124  | 718    | 11.03        | 28.64     | 64 765 | 90.20     | 1 865 059 | 34.92        |
| 38-39                                                            | 64 406  | 726    | 11.26        | 27.95     | 64 043 | 88.21     | 1 800 294 | 35.78        |
| 39-40                                                            | 63 680  | 727    | 11.43        | 27.27     | 63 317 | 87.09     | 1 736 251 | 36.67        |
| 40-41                                                            | 62 933  | 732    | 11.62        | 26.57     | 62 587 | 85.50     | 1 672 934 | 37.64        |
| 41-42                                                            | 62 221  | 735    | 11.82        | 25.88     | 61 854 | 84.16     | 1 610 317 | 38.64        |
| 42-43                                                            | 61 486  | 746    | 12.13        | 25.18     | 61 113 | 81.92     | 1 548 493 | 39.71        |
| 43-44                                                            | 60 710  | 770    | 12.67        | 24.49     | 60 355 | 78.38     | 1 487 380 | 40.83        |
| 44-45                                                            | 59 970  | 803    | 13.39        | 23.80     | 59 569 | 74.18     | 1 427 025 | 42.02        |



## STATE OF NEW JERSEY: 1901.

TABLE 51

REPORTED DEATHS IN 1900 (17,904), IN 1901 (17,077), AND IN 1902 (17,071).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE INTERVAL. | OF 100,000 MALES BORN ALIVE:               |                                            | RATE OF MORTALITY PER THOUSAND. | COMPLETE EXPECTATION OF LIFE.                                                | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                                       |                                                    |                                                                    |
|---------------|--------------------------------------------|--------------------------------------------|---------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------|
|               |                                            |                                            |                                 |                                                                              | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS. | DEATH RATE PER THOUSAND.                                           |
|               | Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval.   | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval.                                                                                                                        | Including only those in current month or year of age. | Population per death in age interval.              | Sum of numbers in column 6 in current and all older age intervals. |
| $x$ to $x+1$  | $l_x$                                      | $d_x$                                      | $1000q_x$                       | $e_x$                                                                        | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                                             | $T_x$                                              | $1000L_x/T_x$                                                      |
| 1             | 2                                          | 3                                          | 4                               | 5                                                                            | 6                                                                                                                                                                                                       | 7                                                     | 8                                                  | 9                                                                  |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 59 167 | 838   | 14.17        | 23.11     | 58 748 | 70.11     | 1 367 456 | 43.27        |
| 46-47                                                                      | 58 329 | 881   | 15.09        | 22.44     | 57 889 | 65.71     | 1 308 708 | 44.56        |
| 47-48                                                                      | 57 118 | 917   | 15.97        | 21.77     | 56 989 | 62.15     | 1 250 819 | 45.93        |
| 48-49                                                                      | 56 531 | 941   | 16.65        | 21.12     | 56 060 | 59.57     | 1 193 830 | 47.35        |
| 49-50                                                                      | 55 690 | 955   | 17.17        | 20.47     | 55 112 | 57.71     | 1 137 770 | 48.85        |
| 50-51                                                                      | 54 635 | 970   | 17.76        | 19.82     | 54 150 | 55.82     | 1 082 658 | 50.45        |
| 51-52                                                                      | 53 665 | 981   | 18.33        | 19.17     | 53 173 | 54.04     | 1 028 508 | 52.16        |
| 52-53                                                                      | 52 681 | 1 007 | 19.11        | 18.51     | 52 178 | 51.82     | 975 335   | 54.02        |
| 53-54                                                                      | 51 674 | 1 049 | 20.31        | 17.87     | 51 150 | 48.76     | 923 157   | 55.96        |
| 54-55                                                                      | 50 625 | 1 109 | 21.90        | 17.22     | 50 070 | 45.15     | 872 007   | 58.07        |
| 55-56                                                                      | 49 516 | 1 171 | 23.61        | 16.60     | 48 931 | 41.79     | 821 937   | 60.24        |
| 56-57                                                                      | 48 345 | 1 240 | 25.65        | 15.99     | 47 725 | 38.49     | 773 006   | 62.54        |
| 57-58                                                                      | 47 105 | 1 306 | 27.72        | 15.40     | 46 452 | 35.57     | 725 281   | 64.94        |
| 58-59                                                                      | 45 799 | 1 353 | 29.56        | 14.82     | 45 122 | 33.35     | 678 829   | 67.48        |
| 59-60                                                                      | 44 446 | 1 386 | 31.17        | 14.26     | 43 753 | 31.57     | 633 707   | 70.13        |
| 60-61                                                                      | 43 060 | 1 417 | 32.91        | 13.70     | 42 352 | 29.89     | 589 954   | 72.99        |
| 61-62                                                                      | 41 643 | 1 442 | 34.63        | 13.15     | 40 922 | 28.38     | 547 602   | 76.05        |
| 62-63                                                                      | 40 201 | 1 474 | 36.68        | 12.60     | 39 461 | 26.87     | 506 680   | 79.37        |
| 63-64                                                                      | 38 727 | 1 526 | 39.39        | 12.06     | 37 964 | 24.88     | 467 216   | 82.92        |
| 64-65                                                                      | 37 201 | 1 591 | 42.78        | 11.54     | 36 406 | 22.88     | 429 252   | 86.66        |
| 65-66                                                                      | 35 610 | 1 655 | 46.46        | 11.03     | 34 783 | 21.02     | 392 846   | 90.66        |
| 66-67                                                                      | 33 955 | 1 720 | 50.67        | 10.55     | 33 095 | 19.24     | 358 063   | 94.79        |
| 67-68                                                                      | 32 235 | 1 769 | 51.89        | 10.08     | 31 350 | 17.72     | 324 968   | 99.21        |
| 68-69                                                                      | 30 466 | 1 783 | 58.52        | 9.64      | 29 574 | 16.59     | 293 618   | 103.73       |
| 69-70                                                                      | 28 653 | 1 769 | 61.67        | 9.21      | 27 798 | 15.71     | 264 044   | 108.58       |
| 70-71                                                                      | 26 914 | 1 752 | 65.09        | 8.78      | 26 038 | 14.86     | 236 246   | 113.90       |
| 71-72                                                                      | 25 162 | 1 725 | 68.57        | 8.35      | 24 300 | 14.09     | 210 208   | 119.76       |
| 72-73                                                                      | 23 437 | 1 702 | 72.60        | 7.93      | 22 586 | 13.27     | 185 908   | 126.10       |
| 73-74                                                                      | 21 735 | 1 690 | 77.78        | 7.51      | 20 890 | 12.36     | 163 322   | 133.16       |
| 74-75                                                                      | 20 045 | 1 687 | 84.16        | 7.11      | 19 201 | 11.38     | 142 432   | 140.65       |
| 75-76                                                                      | 18 358 | 1 673 | 91.12        | 6.71      | 17 521 | 10.47     | 123 231   | 149.03       |
| 76-77                                                                      | 16 685 | 1 651 | 98.98        | 6.31      | 15 859 | 9.61      | 105 710   | 157.73       |
| 77-78                                                                      | 15 034 | 1 619 | 107.65       | 5.98      | 14 224 | 8.79      | 89 851    | 167.22       |
| 78-79                                                                      | 13 415 | 1 574 | 117.34       | 5.64      | 12 628 | 8.02      | 75 627    | 177.31       |
| 79-80                                                                      | 11 841 | 1 513 | 127.78       | 5.32      | 11 085 | 7.33      | 62 999    | 187.97       |
| 80-81                                                                      | 10 328 | 1 432 | 138.65       | 5.03      | 9 613  | 6.71      | 51 914    | 198.81       |
| 81-82                                                                      | 8 896  | 1 331 | 149.58       | 4.76      | 8 231  | 6.19      | 42 302    | 210.08       |
| 82-83                                                                      | 7 565  | 1 212 | 160.31       | 4.50      | 6 959  | 5.74      | 34 071    | 222.22       |
| 83-84                                                                      | 6 353  | 1 085 | 170.74       | 4.27      | 5 810  | 5.36      | 27 112    | 234.19       |
| 84-85                                                                      | 5 268  | 954   | 180.99       | 4.04      | 4 791  | 5.03      | 21 302    | 247.52       |
| 85-86                                                                      | 4 314  | 825   | 191.41       | 3.83      | 3 909  | 4.72      | 16 511    | 261.10       |
| 86-87                                                                      | 3 489  | 707   | 202.50       | 3.62      | 3 135  | 4.44      | 12 609    | 276.24       |
| 87-88                                                                      | 2 782  | 597   | 214.74       | 3.41      | 2 483  | 4.16      | 9 474     | 293.26       |
| 88-89                                                                      | 2 185  | 500   | 228.51       | 3.20      | 1 935  | 3.88      | 6 991     | 312.50       |
| 89-90                                                                      | 1 685  | 411   | 244.06       | 3.00      | 1 480  | 3.60      | 5 056     | 333.33       |
| 90-91                                                                      | 1 274  | 333   | 261.35       | 2.81      | 1 108  | 3.33      | 3 576     | 355.87       |
| 91-92                                                                      | 941    | 264   | 280.19       | 2.62      | 809    | 3.07      | 2 468     | 381.68       |
| 92-93                                                                      | 677    | 203   | 300.31       | 2.45      | 576    | 2.83      | 1 639     | 408.16       |
| 93-94                                                                      | 474    | 152   | 321.51       | 2.29      | 398    | 2.61      | 1 083     | 436.68       |
| 94-95                                                                      | 322    | 111   | 343.68       | 2.14      | 266    | 2.41      | 685       | 467.29       |
| 95-96                                                                      | 211    | 77    | 366.84       | 2.00      | 172    | 2.23      | 419       | 500.00       |
| 96-97                                                                      | 134    | 53    | 391.07       | 1.86      | 108    | 2.06      | 247       | 537.63       |
| 97-98                                                                      | 81     | 34    | 416.47       | 1.74      | 61     | 1.90      | 139       | 574.71       |
| 98-99                                                                      | 47     | 21    | 442.99       | 1.62      | 37     | 1.76      | 75        | 617.28       |
| 99-100                                                                     | 26     | 12    | 470.87       | 1.51      | 20     | 1.62      | 38        | 662.25       |
| 100-101                                                                    | 14     | 7     | 499.96       | 1.40      | 10     | 1.50      | 18        | 714.29       |
| 101-102                                                                    | 7      | 4     | 530.26       | 1.31      | 5      | 1.39      | 8         | 763.26       |
| 102-103                                                                    | 3      | 2     | 561.72       | 1.21      | 2      | 1.28      | 3         | 826.45       |
| 103-104                                                                    | 1      | 1     | 594.30       | 1.13      | 1      | 1.18      | 1         | 884.96       |

TABLE 52

## LIFE TABLE FOR MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (1,293,454), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE<br>INTERVAL.                                                   | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|--------------------------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                                    |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
|                                                                    | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                                       | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                                  | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |
| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |                                                  |                                  |                                                                                               |                                                                                              |                                                                                                                                                                                                            |                                             |                                                                               |                                                                                                                 |
| Months.                                                            |                                                  |                                  | Monthly rate.                                                                                 | In years.                                                                                    |                                                                                                                                                                                                            | Per month.                                  |                                                                               | Annual rate.                                                                                                    |
| 0-1                                                                | 100 000                                          | 4 469                            | 44.69                                                                                         | 49.08                                                                                        | 8 051                                                                                                                                                                                                      | 21.60                                       | 4 908 250                                                                     | 20.37                                                                                                           |
| 1-2                                                                | 95 531                                           | 1 147                            | 12.00                                                                                         | 51.29                                                                                        | 7 913                                                                                                                                                                                                      | 82.80                                       | 4 900 196                                                                     | 19.50                                                                                                           |
| 2-3                                                                | 94 384                                           | 1 024                            | 10.85                                                                                         | 51.83                                                                                        | 7 823                                                                                                                                                                                                      | 91.68                                       | 4 892 283                                                                     | 19.29                                                                                                           |
| 3-4                                                                | 93 360                                           | 932                              | 9.99                                                                                          | 52.32                                                                                        | 7 741                                                                                                                                                                                                      | 99.72                                       | 4 884 460                                                                     | 19.11                                                                                                           |
| 4-5                                                                | 92 428                                           | 848                              | 9.17                                                                                          | 52.76                                                                                        | 7 667                                                                                                                                                                                                      | 108.48                                      | 4 876 719                                                                     | 18.95                                                                                                           |
| 5-6                                                                | 91 580                                           | 768                              | 8.38                                                                                          | 53.17                                                                                        | 7 600                                                                                                                                                                                                      | 118.80                                      | 4 869 052                                                                     | 18.81                                                                                                           |
| 6-7                                                                | 90 812                                           | 691                              | 7.61                                                                                          | 53.53                                                                                        | 7 539                                                                                                                                                                                                      | 130.92                                      | 4 861 452                                                                     | 18.68                                                                                                           |
| 7-8                                                                | 90 124                                           | 617                              | 6.85                                                                                          | 53.86                                                                                        | 7 484                                                                                                                                                                                                      | 145.56                                      | 4 853 913                                                                     | 18.57                                                                                                           |
| 8-9                                                                | 89 504                                           | 551                              | 6.15                                                                                          | 54.15                                                                                        | 7 436                                                                                                                                                                                                      | 162.00                                      | 4 846 429                                                                     | 18.47                                                                                                           |
| 9-10                                                               | 88 954                                           | 492                              | 5.51                                                                                          | 54.40                                                                                        | 7 392                                                                                                                                                                                                      | 180.24                                      | 4 838 993                                                                     | 18.38                                                                                                           |
| 10-11                                                              | 88 461                                           | 439                              | 5.08                                                                                          | 54.62                                                                                        | 7 353                                                                                                                                                                                                      | 196.08                                      | 4 831 601                                                                     | 18.31                                                                                                           |
| 11-12                                                              | 88 014                                           | 390                              | 4.89                                                                                          | 54.81                                                                                        | 7 316                                                                                                                                                                                                      | 204.12                                      | 4 824 248                                                                     | 18.24                                                                                                           |
| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.   |                                                  |                                  |                                                                                               |                                                                                              |                                                                                                                                                                                                            |                                             |                                                                               |                                                                                                                 |
| Years.                                                             |                                                  |                                  | Annual rate.                                                                                  | In years.                                                                                    |                                                                                                                                                                                                            | Per year.                                   |                                                                               | Annual rate.                                                                                                    |
| 0-1                                                                | 100 000                                          | 12 410                           | 124.10                                                                                        | 49.08                                                                                        | 91 318                                                                                                                                                                                                     | 7.35                                        | 4 908 250                                                                     | 20.37                                                                                                           |
| 1-2                                                                | 87 581                                           | 2 599                            | 29.67                                                                                         | 55.00                                                                                        | 86 048                                                                                                                                                                                                     | 33.11                                       | 4 816 932                                                                     | 18.18                                                                                                           |
| 2-3                                                                | 81 982                                           | 1 220                            | 14.77                                                                                         | 55.07                                                                                        | 81 331                                                                                                                                                                                                     | 68.62                                       | 4 730 881                                                                     | 17.96                                                                                                           |
| 3-4                                                                | 80 754                                           | 697                              | 8.32                                                                                          | 55.18                                                                                        | 83 390                                                                                                                                                                                                     | 119.61                                      | 4 646 553                                                                     | 18.02                                                                                                           |
| 4-5                                                                | 80 056                                           | 628                              | 6.30                                                                                          | 55.31                                                                                        | 82 781                                                                                                                                                                                                     | 156.78                                      | 4 563 163                                                                     | 18.20                                                                                                           |
| 5-6                                                                | 82 528                                           | 421                              | 5.10                                                                                          | 51.29                                                                                        | 82 317                                                                                                                                                                                                     | 195.53                                      | 4 480 382                                                                     | 18.12                                                                                                           |
| 6-7                                                                | 82 107                                           | 359                              | 4.37                                                                                          | 51.57                                                                                        | 81 928                                                                                                                                                                                                     | 228.21                                      | 4 398 065                                                                     | 18.67                                                                                                           |
| 7-8                                                                | 81 748                                           | 307                              | 3.75                                                                                          | 52.80                                                                                        | 81 595                                                                                                                                                                                                     | 265.78                                      | 4 316 137                                                                     | 18.91                                                                                                           |
| 8-9                                                                | 81 441                                           | 263                              | 3.24                                                                                          | 52.00                                                                                        | 81 310                                                                                                                                                                                                     | 309.16                                      | 4 234 542                                                                     | 19.23                                                                                                           |
| 9-10                                                               | 81 178                                           | 234                              | 2.84                                                                                          | 51.10                                                                                        | 81 063                                                                                                                                                                                                     | 350.92                                      | 4 153 232                                                                     | 19.55                                                                                                           |
| 10-11                                                              | 80 947                                           | 206                              | 2.55                                                                                          | 50.31                                                                                        | 80 844                                                                                                                                                                                                     | 392.45                                      | 4 072 169                                                                     | 19.88                                                                                                           |
| 11-12                                                              | 80 744                                           | 189                              | 2.38                                                                                          | 49.43                                                                                        | 80 645                                                                                                                                                                                                     | 417.85                                      | 3 991 325                                                                     | 20.23                                                                                                           |
| 12-13                                                              | 80 568                                           | 187                              | 2.33                                                                                          | 48.55                                                                                        | 80 455                                                                                                                                                                                                     | 430.24                                      | 3 910 680                                                                     | 20.60                                                                                                           |
| 13-14                                                              | 80 401                                           | 191                              | 2.37                                                                                          | 47.66                                                                                        | 80 266                                                                                                                                                                                                     | 420.24                                      | 3 830 225                                                                     | 20.98                                                                                                           |
| 14-15                                                              | 80 240                                           | 200                              | 2.50                                                                                          | 46.78                                                                                        | 80 070                                                                                                                                                                                                     | 400.35                                      | 3 749 959                                                                     | 21.38                                                                                                           |
| 15-16                                                              | 79 070                                           | 214                              | 2.67                                                                                          | 45.89                                                                                        | 79 863                                                                                                                                                                                                     | 373.19                                      | 3 669 889                                                                     | 21.79                                                                                                           |
| 16-17                                                              | 79 756                                           | 208                              | 2.59                                                                                          | 45.01                                                                                        | 79 647                                                                                                                                                                                                     | 331.61                                      | 3 590 026                                                                     | 22.22                                                                                                           |
| 17-18                                                              | 79 518                                           | 275                              | 3.46                                                                                          | 44.15                                                                                        | 79 380                                                                                                                                                                                                     | 288.65                                      | 3 510 389                                                                     | 22.65                                                                                                           |
| 18-19                                                              | 79 244                                           | 318                              | 4.01                                                                                          | 43.30                                                                                        | 79 081                                                                                                                                                                                                     | 248.69                                      | 3 431 009                                                                     | 23.09                                                                                                           |
| 19-20                                                              | 78 925                                           | 360                              | 4.50                                                                                          | 42.47                                                                                        | 78 745                                                                                                                                                                                                     | 218.74                                      | 3 351 925                                                                     | 23.55                                                                                                           |
| 20-21                                                              | 78 565                                           | 405                              | 5.15                                                                                          | 41.66                                                                                        | 78 363                                                                                                                                                                                                     | 193.49                                      | 3 273 180                                                                     | 24.00                                                                                                           |
| 21-22                                                              | 78 160                                           | 444                              | 5.69                                                                                          | 40.88                                                                                        | 77 943                                                                                                                                                                                                     | 179.59                                      | 3 194 817                                                                     | 24.46                                                                                                           |
| 22-23                                                              | 77 716                                           | 484                              | 6.24                                                                                          | 40.10                                                                                        | 77 501                                                                                                                                                                                                     | 171.56                                      | 3 116 874                                                                     | 24.91                                                                                                           |
| 23-24                                                              | 77 232                                           | 526                              | 6.80                                                                                          | 39.33                                                                                        | 77 022                                                                                                                                                                                                     | 175.14                                      | 3 039 370                                                                     | 25.43                                                                                                           |
| 24-25                                                              | 76 706                                           | 569                              | 7.41                                                                                          | 38.58                                                                                        | 76 623                                                                                                                                                                                                     | 174.51                                      | 2 962 308                                                                     | 25.91                                                                                                           |
| 25-26                                                              | 76 143                                           | 618                              | 8.11                                                                                          | 37.77                                                                                        | 76 181                                                                                                                                                                                                     | 173.94                                      | 2 885 685                                                                     | 26.48                                                                                                           |
| 26-27                                                              | 75 543                                           | 673                              | 8.90                                                                                          | 36.98                                                                                        | 75 711                                                                                                                                                                                                     | 174.37                                      | 2 809 501                                                                     | 27.04                                                                                                           |
| 27-28                                                              | 74 906                                           | 735                              | 9.82                                                                                          | 36.20                                                                                        | 75 200                                                                                                                                                                                                     | 165.19                                      | 2 733 757                                                                     | 27.62                                                                                                           |
| 28-29                                                              | 74 131                                           | 802                              | 10.81                                                                                         | 35.44                                                                                        | 74 632                                                                                                                                                                                                     | 158.21                                      | 2 658 461                                                                     | 28.21                                                                                                           |
| 29-30                                                              | 73 229                                           | 869                              | 11.86                                                                                         | 34.69                                                                                        | 74 010                                                                                                                                                                                                     | 151.12                                      | 2 583 629                                                                     | 28.87                                                                                                           |
| 30-31                                                              | 72 199                                           | 934                              | 12.94                                                                                         | 33.90                                                                                        | 73 347                                                                                                                                                                                                     | 144.51                                      | 2 509 280                                                                     | 29.53                                                                                                           |
| 31-32                                                              | 71 035                                           | 1007                             | 14.18                                                                                         | 33.09                                                                                        | 72 621                                                                                                                                                                                                     | 138.80                                      | 2 435 433                                                                     | 30.22                                                                                                           |
| 32-33                                                              | 69 738                                           | 1089                             | 15.62                                                                                         | 32.24                                                                                        | 71 832                                                                                                                                                                                                     | 133.12                                      | 2 362 109                                                                     | 30.93                                                                                                           |
| 33-34                                                              | 68 309                                           | 1180                             | 17.28                                                                                         | 31.36                                                                                        | 70 981                                                                                                                                                                                                     | 127.51                                      | 2 289 337                                                                     | 31.67                                                                                                           |
| 34-35                                                              | 66 739                                           | 1280                             | 19.18                                                                                         | 30.44                                                                                        | 70 070                                                                                                                                                                                                     | 122.17                                      | 2 217 152                                                                     | 32.43                                                                                                           |
| 35-36                                                              | 65 009                                           | 1390                             | 21.39                                                                                         | 29.49                                                                                        | 69 108                                                                                                                                                                                                     | 116.94                                      | 2 145 388                                                                     | 33.20                                                                                                           |
| 36-37                                                              | 63 119                                           | 1510                             | 23.93                                                                                         | 28.50                                                                                        | 68 090                                                                                                                                                                                                     | 111.80                                      | 2 073 680                                                                     | 34.01                                                                                                           |
| 37-38                                                              | 61 069                                           | 1640                             | 26.86                                                                                         | 27.47                                                                                        | 67 016                                                                                                                                                                                                     | 106.81                                      | 2 001 460                                                                     | 34.86                                                                                                           |
| 38-39                                                              | 58 859                                           | 1790                             | 30.40                                                                                         | 26.40                                                                                        | 65 880                                                                                                                                                                                                     | 101.93                                      | 1 929 350                                                                     | 35.71                                                                                                           |
| 39-40                                                              | 56 469                                           | 1960                             | 34.70                                                                                         | 25.29                                                                                        | 64 681                                                                                                                                                                                                     | 97.21                                       | 1 856 161                                                                     | 36.67                                                                                                           |
| 40-41                                                              | 53 909                                           | 2150                             | 39.89                                                                                         | 24.14                                                                                        | 63 417                                                                                                                                                                                                     | 92.69                                       | 1 782 114                                                                     | 37.64                                                                                                           |
| 41-42                                                              | 51 159                                           | 2370                             | 46.33                                                                                         | 22.94                                                                                        | 62 087                                                                                                                                                                                                     | 88.20                                       | 1 708 114                                                                     | 38.67                                                                                                           |
| 42-43                                                              | 48 209                                           | 2620                             | 54.35                                                                                         | 21.69                                                                                        | 60 691                                                                                                                                                                                                     | 83.84                                       | 1 634 271                                                                     | 39.75                                                                                                           |
| 43-44                                                              | 45 059                                           | 2900                             | 64.36                                                                                         | 20.40                                                                                        | 59 230                                                                                                                                                                                                     | 79.51                                       | 1 559 510                                                                     | 40.90                                                                                                           |
| 44-45                                                              | 41 709                                           | 3210                             | 76.98                                                                                         | 19.06                                                                                        | 57 704                                                                                                                                                                                                     | 75.80                                       | 1 483 532                                                                     | 42.09                                                                                                           |

## STATE OF NEW JERSEY: 1910.

## TABLE 52

REPORTED DEATHS IN 1909 (19,621), IN 1910 (21,223), AND IN 1911 (20,811).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                   | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                       | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 63 704 | 877   | 13.77        | 23.07     | 63 265 | 72.14     | 1 469 426 | 43.35        |
| 46-47                                                                      | 62 827 | 907   | 14.43        | 22.38     | 62 374 | 68.77     | 1 106 161 | 44.68        |
| 47-48                                                                      | 61 920 | 928   | 15.00        | 21.70     | 61 456 | 66.22     | 1 343 787 | 46.08        |
| 48-49                                                                      | 60 992 | 946   | 15.50        | 21.02     | 60 519 | 63.97     | 1 282 331 | 47.57        |
| 49-50                                                                      | 60 046 | 963   | 16.04        | 20.35     | 59 565 | 61.85     | 1 221 812 | 49.14        |
| 50-51                                                                      | 59 083 | 979   | 16.57        | 19.67     | 58 594 | 59.85     | 1 162 247 | 50.84        |
| 51-52                                                                      | 58 104 | 1 006 | 17.32        | 18.99     | 57 601 | 57.26     | 1 103 653 | 52.66        |
| 52-53                                                                      | 57 098 | 1 054 | 18.46        | 18.32     | 56 571 | 53.67     | 1 046 032 | 54.59        |
| 53-54                                                                      | 56 044 | 1 123 | 20.04        | 17.66     | 55 482 | 49.41     | 989 481   | 56.63        |
| 54-55                                                                      | 54 921 | 1 200 | 21.84        | 17.01     | 54 321 | 45.27     | 933 999   | 58.79        |
| 55-56                                                                      | 53 721 | 1 291 | 24.04        | 16.37     | 53 076 | 41.11     | 879 678   | 61.09        |
| 56-57                                                                      | 52 430 | 1 382 | 26.37        | 15.77     | 51 739 | 37.44     | 826 602   | 63.41        |
| 57-58                                                                      | 51 048 | 1 451 | 28.41        | 15.18     | 50 323 | 34.68     | 774 863   | 65.88        |
| 58-59                                                                      | 49 597 | 1 495 | 30.14        | 14.61     | 48 850 | 32.68     | 724 510   | 68.45        |
| 59-60                                                                      | 48 102 | 1 541 | 32.05        | 14.05     | 47 332 | 30.72     | 675 690   | 71.17        |
| 60-61                                                                      | 46 561 | 1 583 | 33.99        | 13.50     | 45 770 | 28.91     | 628 358   | 74.07        |
| 61-62                                                                      | 44 978 | 1 626 | 36.16        | 12.95     | 44 165 | 27.16     | 582 368   | 77.22        |
| 62-63                                                                      | 43 352 | 1 683 | 38.81        | 12.42     | 42 510 | 25.26     | 538 123   | 80.52        |
| 63-64                                                                      | 41 669 | 1 745 | 41.89        | 11.90     | 40 796 | 23.38     | 495 913   | 84.03        |
| 64-65                                                                      | 39 924 | 1 798 | 45.02        | 11.40     | 39 025 | 21.70     | 455 117   | 87.72        |
| 65-66                                                                      | 38 126 | 1 841 | 48.30        | 10.91     | 37 206 | 20.21     | 416 092   | 91.66        |
| 66-67                                                                      | 36 285 | 1 872 | 51.58        | 10.44     | 35 319 | 18.88     | 378 886   | 95.79        |
| 67-68                                                                      | 34 413 | 1 884 | 54.75        | 9.98      | 33 471 | 17.77     | 343 537   | 100.20       |
| 68-69                                                                      | 32 529 | 1 881 | 57.93        | 9.53      | 31 587 | 16.77     | 310 066   | 104.93       |
| 69-70                                                                      | 30 645 | 1 879 | 61.30        | 9.09      | 29 705 | 15.81     | 278 479   | 110.01       |
| 70-71                                                                      | 28 766 | 1 863 | 64.77        | 8.65      | 27 834 | 14.94     | 248 774   | 115.61       |
| 71-72                                                                      | 26 903 | 1 853 | 68.88        | 8.21      | 25 976 | 14.02     | 220 910   | 121.80       |
| 72-73                                                                      | 25 050 | 1 858 | 74.15        | 7.78      | 24 121 | 12.98     | 194 964   | 128.53       |
| 73-74                                                                      | 23 192 | 1 869 | 80.61        | 7.37      | 22 258 | 11.91     | 170 843   | 135.69       |
| 74-75                                                                      | 21 323 | 1 875 | 87.93        | 6.97      | 20 385 | 10.87     | 148 585   | 143.47       |
| 75-76                                                                      | 19 448 | 1 880 | 96.67        | 6.59      | 18 508 | 9.84      | 128 200   | 151.75       |
| 76-77                                                                      | 17 568 | 1 858 | 105.79       | 6.24      | 16 639 | 8.96      | 109 692   | 160.26       |
| 77-78                                                                      | 15 710 | 1 791 | 113.99       | 5.92      | 14 814 | 8.27      | 93 053    | 168.92       |
| 78-79                                                                      | 13 919 | 1 689 | 121.32       | 5.62      | 13 075 | 7.74      | 78 239    | 177.94       |
| 79-80                                                                      | 12 230 | 1 588 | 129.87       | 5.33      | 11 436 | 7.20      | 65 164    | 187.62       |
| 80-81                                                                      | 10 642 | 1 487 | 139.69       | 5.05      | 9 899  | 6.66      | 53 728    | 198.02       |
| 81-82                                                                      | 9 155  | 1 365 | 149.11       | 4.79      | 8 473  | 6.21      | 43 829    | 208.77       |
| 82-83                                                                      | 7 790  | 1 235 | 158.53       | 4.51      | 7 173  | 5.81      | 35 356    | 220.26       |
| 83-84                                                                      | 6 555  | 1 103 | 168.32       | 4.30      | 6 004  | 5.44      | 28 183    | 232.56       |
| 84-85                                                                      | 5 452  | 974   | 178.68       | 4.07      | 4 965  | 5.10      | 22 179    | 245.70       |
| 85-86                                                                      | 4 478  | 850   | 189.83       | 3.84      | 4 033  | 4.77      | 17 214    | 260.42       |
| 86-87                                                                      | 3 628  | 733   | 201.95       | 3.63      | 3 261  | 4.45      | 13 161    | 275.48       |
| 87-88                                                                      | 2 895  | 623   | 215.14       | 3.42      | 2 584  | 4.15      | 9 900     | 292.10       |
| 88-89                                                                      | 2 272  | 521   | 229.40       | 3.22      | 2 012  | 3.86      | 7 316     | 310.56       |
| 89-90                                                                      | 1 751  | 428   | 244.70       | 3.03      | 1 537  | 3.59      | 5 304     | 330.03       |
| 90-91                                                                      | 1 323  | 346   | 260.93       | 2.85      | 1 150  | 3.33      | 3 767     | 350.88       |
| 91-92                                                                      | 977    | 271   | 278.01       | 2.68      | 812    | 3.10      | 2 617     | 373.13       |
| 92-93                                                                      | 706    | 209   | 295.91       | 2.52      | 601    | 2.88      | 1 775     | 396.83       |
| 93-94                                                                      | 497    | 156   | 314.63       | 2.36      | 419    | 2.68      | 1 174     | 423.73       |
| 94-95                                                                      | 341    | 114   | 334.24       | 2.22      | 284    | 2.49      | 753       | 450.45       |
| 95-96                                                                      | 227    | 81    | 354.88       | 2.08      | 186    | 2.32      | 471       | 480.77       |
| 96-97                                                                      | 146    | 55    | 376.61       | 1.95      | 119    | 2.16      | 285       | 512.82       |
| 97-98                                                                      | 91     | 36    | 399.19       | 1.84      | 73     | 2.00      | 166       | 546.45       |
| 98-99                                                                      | 55     | 23    | 423.53       | 1.71      | 43     | 1.86      | 93        | 581.80       |
| 99-100                                                                     | 32     | 15    | 448.61       | 1.60      | 24     | 1.73      | 50        | 625.00       |
| 100-101                                                                    | 17     | 8     | 474.90       | 1.50      | 13     | 1.61      | 26        | 666.67       |
| 101-102                                                                    | 9      | 4     | 502.45       | 1.40      | 7      | 1.49      | 13        | 711.29       |
| 102-103                                                                    | 5      | 3     | 531.30       | 1.30      | 3      | 1.38      | 6         | 769.23       |
| 103-104                                                                    | 2      | 1     | 561.47       | 1.22      | 2      | 1.28      | 3         | 819.67       |
| 104-105                                                                    | 1      | 1     | 592.96       | 1.13      | 1      | 1.19      | 1         | 884.96       |

TABLE 53

## LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (975,950), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 11 666 | 116.66       | 50.45     | 91 717 | 7.86      | 5 045 407 | 19.82        |
| 1-2                                                              | 88 334  | 2 937  | 33.25        | 56.08     | 86 601 | 29.49     | 4 953 690 | 17.83        |
| 2-3                                                              | 85 397  | 1 312  | 15.36        | 56.99     | 84 703 | 64.56     | 4 867 089 | 17.55        |
| 3-4                                                              | 84 085  | 887    | 10.55        | 56.88     | 83 624 | 94.28     | 4 782 387 | 17.58        |
| 4-5                                                              | 83 198  | 676    | 8.13         | 56.48     | 82 817 | 122.55    | 4 698 763 | 17.71        |
| 5-6                                                              | 82 522  | 500    | 6.06         | 55.94     | 82 272 | 164.54    | 4 615 916 | 17.88        |
| 6-7                                                              | 82 022  | 414    | 5.05         | 55.27     | 81 815 | 197.62    | 4 533 644 | 18.09        |
| 7-8                                                              | 81 608  | 312    | 4.20         | 54.55     | 81 437 | 238.12    | 4 451 829 | 18.33        |
| 8-9                                                              | 81 266  | 285    | 3.50         | 53.78     | 81 123 | 281.61    | 4 370 392 | 18.59        |
| 9-10                                                             | 80 981  | 241    | 2.98         | 52.97     | 80 860 | 335.52    | 4 289 269 | 18.88        |
| 10-11                                                            | 80 740  | 213    | 2.63         | 52.12     | 80 634 | 378.56    | 4 208 409 | 19.19        |
| 11-12                                                            | 80 527  | 196    | 2.41         | 51.26     | 80 429 | 410.35    | 4 127 775 | 19.51        |
| 12-13                                                            | 80 331  | 193    | 2.41         | 50.38     | 80 234 | 415.72    | 4 047 346 | 19.85        |
| 13-14                                                            | 80 138  | 201    | 2.51         | 49.50     | 80 037 | 398.19    | 3 967 112 | 20.20        |
| 14-15                                                            | 79 937  | 219    | 2.74         | 48.63     | 79 827 | 364.51    | 3 887 075 | 20.56        |
| 15-16                                                            | 79 718  | 244    | 3.06         | 47.76     | 79 596 | 326.21    | 3 807 248 | 20.94        |
| 16-17                                                            | 79 474  | 277    | 3.48         | 46.90     | 79 335 | 286.41    | 3 727 652 | 21.32        |
| 17-18                                                            | 79 197  | 311    | 3.92         | 46.07     | 79 012 | 251.15    | 3 648 317 | 21.71        |
| 18-19                                                            | 78 886  | 342    | 4.33         | 45.25     | 78 715 | 209.16    | 3 569 275 | 22.10        |
| 19-20                                                            | 78 544  | 369    | 4.71         | 44.44     | 78 360 | 212.36    | 3 490 560 | 22.50        |
| 20-21                                                            | 78 175  | 399    | 5.10         | 43.65     | 77 975 | 195.43    | 3 412 200 | 22.91        |
| 21-22                                                            | 77 776  | 428    | 5.50         | 42.87     | 77 562 | 181.22    | 3 334 225 | 23.33        |
| 22-23                                                            | 77 348  | 452    | 5.84         | 42.10     | 77 122 | 170.62    | 3 256 663 | 23.75        |
| 23-24                                                            | 76 896  | 470    | 6.12         | 41.35     | 76 661 | 163.11    | 3 179 541 | 24.18        |
| 24-25                                                            | 76 426  | 486    | 6.36         | 40.60     | 76 183 | 156.76    | 3 102 880 | 24.63        |
| 25-26                                                            | 75 940  | 501    | 6.59         | 39.86     | 75 689 | 151.08    | 3 026 697 | 25.09        |
| 26-27                                                            | 75 439  | 515    | 6.83         | 39.12     | 75 181 | 145.98    | 2 951 008 | 25.56        |
| 27-28                                                            | 74 924  | 528    | 7.01         | 38.38     | 74 660 | 141.40    | 2 875 827 | 26.06        |
| 28-29                                                            | 74 396  | 537    | 7.23         | 37.65     | 74 128 | 138.04    | 2 801 167 | 26.56        |
| 29-30                                                            | 73 859  | 547    | 7.40         | 36.92     | 73 585 | 134.52    | 2 727 039 | 27.09        |
| 30-31                                                            | 73 312  | 555    | 7.58         | 36.19     | 73 034 | 131.59    | 2 653 454 | 27.63        |
| 31-32                                                            | 72 757  | 565    | 7.76         | 35.47     | 72 475 | 128.27    | 2 580 420 | 28.19        |
| 32-33                                                            | 72 192  | 571    | 7.91         | 34.74     | 71 907 | 125.93    | 2 507 945 | 28.79        |
| 33-34                                                            | 71 621  | 575    | 8.03         | 34.01     | 71 334 | 124.06    | 2 436 038 | 29.40        |
| 34-35                                                            | 71 046  | 576    | 8.11         | 33.28     | 70 758 | 122.84    | 2 364 704 | 30.05        |
| 35-36                                                            | 70 470  | 578    | 8.20         | 32.55     | 70 181 | 121.42    | 2 293 946 | 30.72        |
| 36-37                                                            | 69 892  | 578    | 8.27         | 31.82     | 69 603 | 120.42    | 2 223 765 | 31.43        |
| 37-38                                                            | 69 314  | 582    | 8.40         | 31.08     | 69 023 | 118.60    | 2 154 162 | 32.18        |
| 38-39                                                            | 68 732  | 595    | 8.66         | 30.34     | 68 434 | 115.02    | 2 085 139 | 32.96        |
| 39-40                                                            | 68 137  | 614    | 9.01         | 29.60     | 67 830 | 110.47    | 2 016 705 | 33.78        |
| 40-41                                                            | 67 523  | 634    | 9.39         | 28.86     | 67 206 | 106.00    | 1 948 875 | 34.65        |
| 41-42                                                            | 66 889  | 658    | 9.81         | 28.13     | 66 560 | 101.16    | 1 881 669 | 35.55        |
| 42-43                                                            | 66 231  | 678    | 10.23        | 27.41     | 65 892 | 97.19     | 1 815 109 | 36.48        |
| 43-44                                                            | 65 553  | 688    | 10.50        | 26.68     | 65 209 | 94.78     | 1 749 217 | 37.48        |
| 44-45                                                            | 64 865  | 693    | 10.69        | 25.96     | 64 519 | 93.10     | 1 684 008 | 38.52        |

## THE STATE OF NEW JERSEY: 1901.

## TABLE 53

REPORTED DEATHS IN 1900 (15,535), IN 1901 (14,714), AND IN 1902 (14,311).

Illustrative examples, showing how to use the tables, are given on pages 29 to 40.

| AGE<br>INTERVAL. | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                  |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
|                  | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 64 172 | 701   | 10.93        | 25.24     | 63 821 | 91.04     | 1 619 469 | 39.62        |
| 46-47                                                                      | 63 471 | 711   | 11.19        | 24.51     | 63 115 | 88.77     | 1 555 668 | 40.80        |
| 47-48                                                                      | 62 760 | 729   | 11.61        | 23.78     | 62 396 | 85.59     | 1 492 553 | 42.05        |
| 48-49                                                                      | 62 031 | 762   | 12.29        | 23.06     | 61 650 | 80.91     | 1 430 157 | 43.37        |
| 49-50                                                                      | 61 269 | 806   | 13.15        | 22.34     | 60 866 | 75.52     | 1 368 507 | 44.76        |
| 50-51                                                                      | 60 463 | 848   | 14.03        | 21.63     | 60 039 | 70.80     | 1 307 611 | 46.23        |
| 51-52                                                                      | 59 615 | 892   | 14.96        | 20.93     | 59 169 | 66.33     | 1 247 602 | 47.78        |
| 52-53                                                                      | 58 723 | 935   | 15.92        | 20.24     | 58 255 | 62.30     | 1 188 433 | 49.41        |
| 53-54                                                                      | 57 788 | 978   | 16.92        | 19.56     | 57 299 | 58.59     | 1 130 178 | 51.12        |
| 54-55                                                                      | 56 810 | 1 024 | 18.02        | 18.89     | 56 298 | 54.98     | 1 072 879 | 52.94        |
| 55-56                                                                      | 55 786 | 1 074 | 19.26        | 18.22     | 55 249 | 51.44     | 1 016 581 | 54.88        |
| 56-57                                                                      | 54 712 | 1 132 | 20.68        | 17.57     | 54 146 | 47.83     | 961 332   | 56.92        |
| 57-58                                                                      | 53 580 | 1 189 | 22.20        | 16.93     | 52 986 | 44.56     | 907 186   | 59.07        |
| 58-59                                                                      | 52 391 | 1 240 | 23.66        | 16.30     | 51 771 | 41.75     | 854 200   | 61.35        |
| 59-60                                                                      | 51 151 | 1 281 | 25.01        | 15.69     | 50 511 | 39.43     | 802 429   | 63.73        |
| 60-61                                                                      | 49 870 | 1 320 | 26.49        | 15.08     | 49 210 | 37.28     | 751 918   | 66.31        |
| 61-62                                                                      | 48 550 | 1 356 | 27.93        | 14.47     | 47 872 | 35.30     | 702 708   | 69.11        |
| 62-63                                                                      | 47 191 | 1 395 | 29.55        | 13.88     | 46 496 | 33.33     | 654 836   | 72.05        |
| 63-64                                                                      | 45 799 | 1 446 | 31.58        | 13.28     | 45 076 | 31.17     | 608 310   | 75.30        |
| 64-65                                                                      | 44 353 | 1 512 | 34.09        | 12.70     | 43 597 | 28.83     | 563 264   | 78.74        |
| 65-66                                                                      | 42 811 | 1 578 | 36.83        | 12.13     | 42 052 | 26.65     | 519 667   | 82.44        |
| 66-67                                                                      | 41 263 | 1 648 | 39.93        | 11.57     | 40 439 | 24.54     | 477 615   | 86.43        |
| 67-68                                                                      | 39 615 | 1 719 | 43.41        | 11.04     | 38 755 | 22.55     | 437 176   | 90.58        |
| 68-69                                                                      | 37 896 | 1 787 | 47.13        | 10.51     | 37 002 | 20.71     | 398 421   | 95.15        |
| 69-70                                                                      | 36 109 | 1 840 | 50.98        | 10.01     | 35 189 | 19.12     | 361 419   | 99.90        |
| 70-71                                                                      | 34 269 | 1 891 | 55.17        | 9.52      | 33 323 | 17.62     | 326 230   | 105.04       |
| 71-72                                                                      | 32 378 | 1 933 | 59.70        | 9.05      | 31 412 | 16.25     | 292 907   | 110.50       |
| 72-73                                                                      | 30 445 | 1 961 | 64.41        | 8.59      | 29 465 | 15.03     | 261 495   | 116.11       |
| 73-74                                                                      | 28 484 | 1 977 | 69.10        | 8.15      | 27 496 | 13.91     | 232 030   | 122.70       |
| 74-75                                                                      | 26 507 | 1 984 | 74.86        | 7.72      | 25 515 | 12.86     | 204 534   | 129.53       |
| 75-76                                                                      | 24 523 | 1 985 | 80.95        | 7.30      | 23 530 | 11.85     | 179 019   | 136.99       |
| 76-77                                                                      | 22 538 | 1 980 | 87.81        | 6.90      | 21 548 | 10.88     | 155 489   | 144.93       |
| 77-78                                                                      | 20 558 | 1 962 | 95.41        | 6.52      | 19 577 | 9.98      | 133 941   | 153.37       |
| 78-79                                                                      | 18 596 | 1 923 | 103.46       | 6.15      | 17 635 | 9.17      | 114 364   | 162.60       |
| 79-80                                                                      | 16 673 | 1 868 | 112.02       | 5.80      | 15 739 | 8.43      | 96 729    | 172.41       |
| 80-81                                                                      | 14 805 | 1 793 | 121.08       | 5.47      | 13 909 | 7.76      | 80 990    | 182.82       |
| 81-82                                                                      | 13 012 | 1 700 | 130.63       | 5.16      | 12 162 | 7.16      | 67 051    | 193.80       |
| 82-83                                                                      | 11 312 | 1 591 | 140.68       | 4.85      | 10 517 | 6.61      | 51 919    | 206.19       |
| 83-84                                                                      | 9 721  | 1 471 | 151.34       | 4.57      | 8 985  | 6.11      | 41 102    | 218.82       |
| 84-85                                                                      | 8 250  | 1 343 | 162.73       | 4.29      | 7 579  | 5.65      | 35 417    | 233.10       |
| 85-86                                                                      | 6 907  | 1 208 | 175.00       | 4.03      | 6 303  | 5.21      | 27 838    | 248.14       |
| 86-87                                                                      | 5 699  | 1 073 | 188.28       | 3.78      | 5 162  | 4.81      | 21 535    | 264.55       |
| 87-88                                                                      | 4 626  | 938   | 202.65       | 3.54      | 4 137  | 4.43      | 16 373    | 282.49       |
| 88-89                                                                      | 3 658  | 804   | 218.16       | 3.31      | 3 286  | 4.08      | 12 216    | 302.11       |
| 89-90                                                                      | 2 891  | 677   | 234.79       | 3.10      | 2 545  | 3.76      | 8 930     | 322.58       |
| 90-91                                                                      | 2 207  | 558   | 252.52       | 2.89      | 1 928  | 3.46      | 6 385     | 346.02       |
| 91-92                                                                      | 1 649  | 447   | 271.33       | 2.70      | 1 426  | 3.19      | 4 457     | 370.37       |
| 92-93                                                                      | 1 202  | 350   | 291.20       | 2.52      | 1 027  | 2.93      | 3 031     | 396.83       |
| 93-94                                                                      | 852    | 266   | 312.18       | 2.35      | 719    | 2.70      | 2 004     | 425.53       |
| 94-95                                                                      | 586    | 196   | 334.32       | 2.19      | 488    | 2.49      | 1 285     | 456.62       |
| 95-96                                                                      | 390    | 139   | 357.68       | 2.04      | 320    | 2.30      | 797       | 490.20       |
| 96-97                                                                      | 251    | 96    | 382.25       | 1.90      | 203    | 2.12      | 477       | 526.32       |
| 97-98                                                                      | 155    | 63    | 408.17       | 1.77      | 123    | 1.95      | 274       | 561.97       |
| 98-99                                                                      | 92     | 40    | 435.37       | 1.65      | 72     | 1.80      | 151       | 606.06       |
| 99-100                                                                     | 52     | 24    | 463.85       | 1.53      | 40     | 1.66      | 79        | 653.59       |
| 100-101                                                                    | 28     | 14    | 493.60       | 1.42      | 21     | 1.53      | 39        | 704.23       |
| 101-102                                                                    | 14     | 7     | 524.58       | 1.32      | 10     | 1.41      | 18        | 757.58       |
| 102-103                                                                    | 7      | 4     | 556.78       | 1.23      | 5      | 1.30      | 9         | 813.01       |
| 103-104                                                                    | 3      | 2     | 590.14       | 1.14      | 2      | 1.19      | 3         | 877.19       |
| 104-105                                                                    | 1      | 1     | 624.56       | 1.06      | 1      | 1.10      | 1         | 943.40       |

TABLE 54

## LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (1,257,500), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            | 100 000 | 3 442 | Monthly rate. | In years. |       | Per month. |           | Annual rate. |
| 0-1                                                                | 100 000 | 3 442 | 34.42         | 52.80     | 8 118 | 28.32      | 5 280 055 | 18.94        |
| 1-2                                                                | 96 558  | 922   | 9.55          | 51.60     | 8 008 | 101.28     | 5 271 937 | 18.32        |
| 2-3                                                                | 95 636  | 831   | 8.69          | 55.04     | 7 935 | 114.60     | 5 263 929 | 18.17        |
| 3-4                                                                | 94 805  | 752   | 7.93          | 55.44     | 7 869 | 125.52     | 5 255 994 | 18.04        |
| 4-5                                                                | 94 053  | 684   | 7.28          | 55.80     | 7 809 | 137.04     | 5 248 125 | 17.92        |
| 5-6                                                                | 93 369  | 631   | 6.75          | 56.12     | 7 751 | 147.48     | 5 240 316 | 17.82        |
| 6-7                                                                | 92 738  | 588   | 6.34          | 56.42     | 7 704 | 157.20     | 5 232 562 | 17.72        |
| 7-8                                                                | 92 150  | 552   | 5.99          | 56.70     | 7 656 | 166.44     | 5 224 858 | 17.64        |
| 8-9                                                                | 91 598  | 519   | 5.66          | 56.96     | 7 612 | 176.04     | 5 217 202 | 17.56        |
| 9-10                                                               | 91 079  | 486   | 5.31          | 57.20     | 7 570 | 186.96     | 5 209 590 | 17.48        |
| 10-11                                                              | 90 593  | 451   | 4.99          | 57.42     | 7 531 | 200.40     | 5 202 020 | 17.42        |
| 11-12                                                              | 90 142  | 424   | 4.70          | 57.63     | 7 494 | 212.04     | 5 194 489 | 17.35        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           | 100 000 | 10 282 | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 10 282 | 102.82       | 52.80     | 93 060 | 9.05      | 5 280 055 | 18.94        |
| 1-2                                                              | 89 718  | 2 510  | 27.98        | 57.81     | 88 237 | 35.15     | 5 186 995 | 17.30        |
| 2-3                                                              | 87 208  | 1 066  | 12.22        | 58.47     | 86 643 | 81.28     | 5 098 758 | 17.10        |
| 3-4                                                              | 86 142  | 696    | 8.07         | 58.18     | 85 780 | 123.25    | 5 012 115 | 17.19        |
| 4-5                                                              | 85 446  | 528    | 6.18         | 57.65     | 85 172 | 161.31    | 4 926 335 | 17.35        |
| 5-6                                                              | 84 918  | 410    | 4.84         | 57.01     | 84 713 | 206.62    | 4 841 163 | 17.54        |
| 6-7                                                              | 84 508  | 352    | 4.17         | 56.28     | 84 332 | 239.58    | 4 756 450 | 17.77        |
| 7-8                                                              | 84 156  | 301    | 3.58         | 55.52     | 84 005 | 279.09    | 4 672 118 | 18.01        |
| 8-9                                                              | 83 855  | 260    | 3.09         | 54.71     | 83 725 | 322.02    | 4 588 113 | 18.28        |
| 9-10                                                             | 83 595  | 227    | 2.72         | 53.88     | 83 482 | 367.76    | 4 504 388 | 18.56        |
| 10-11                                                            | 83 368  | 205    | 2.46         | 53.03     | 83 266 | 406.18    | 4 420 906 | 18.86        |
| 11-12                                                            | 83 163  | 193    | 2.32         | 52.16     | 83 066 | 430.39    | 4 337 640 | 19.17        |
| 12-13                                                            | 82 970  | 190    | 2.29         | 51.28     | 82 875 | 436.18    | 4 254 574 | 19.50        |
| 13-14                                                            | 82 780  | 193    | 2.31         | 50.40     | 82 684 | 428.41    | 4 171 699 | 19.84        |
| 14-15                                                            | 82 587  | 204    | 2.47         | 49.51     | 82 485 | 401.34    | 4 089 015 | 20.20        |
| 15-16                                                            | 82 383  | 219    | 2.66         | 48.63     | 82 273 | 375.68    | 4 006 530 | 20.56        |
| 16-17                                                            | 82 161  | 239    | 2.90         | 47.76     | 82 044 | 343.28    | 3 924 257 | 20.94        |
| 17-18                                                            | 81 925  | 260    | 3.18         | 46.90     | 81 795 | 314.60    | 3 842 213 | 21.32        |
| 18-19                                                            | 81 665  | 286    | 3.49         | 46.05     | 81 522 | 285.04    | 3 760 418 | 21.72        |
| 19-20                                                            | 81 379  | 310    | 3.82         | 45.21     | 81 224 | 262.01    | 3 678 896 | 22.12        |
| 20-21                                                            | 81 069  | 338    | 4.16         | 44.38     | 80 900 | 239.35    | 3 597 672 | 22.53        |
| 21-22                                                            | 80 731  | 360    | 4.47         | 43.56     | 80 551 | 223.75    | 3 516 772 | 22.96        |
| 22-23                                                            | 80 371  | 378    | 4.70         | 42.75     | 80 182 | 212.12    | 3 436 221 | 23.39        |
| 23-24                                                            | 79 993  | 391    | 4.89         | 41.95     | 79 797 | 201.08    | 3 356 039 | 23.84        |
| 24-25                                                            | 79 602  | 406    | 5.10         | 41.16     | 79 399 | 195.56    | 3 276 242 | 24.30        |
| 25-26                                                            | 79 196  | 421    | 5.32         | 40.37     | 78 985 | 187.61    | 3 196 843 | 24.77        |
| 26-27                                                            | 78 775  | 433    | 5.50         | 39.58     | 78 558 | 181.43    | 3 117 858 | 25.27        |
| 27-28                                                            | 78 342  | 440    | 5.61         | 38.80     | 78 122 | 177.55    | 3 039 300 | 25.77        |
| 28-29                                                            | 77 902  | 443    | 5.69         | 38.01     | 77 680 | 175.35    | 2 961 178 | 26.31        |
| 29-30                                                            | 77 459  | 447    | 5.77         | 37.23     | 77 235 | 172.79    | 2 883 498 | 26.86        |
| 30-31                                                            | 77 012  | 449    | 5.83         | 36.44     | 76 788 | 171.02    | 2 806 263 | 27.44        |
| 31-32                                                            | 76 563  | 459    | 5.99         | 35.65     | 76 334 | 166.31    | 2 729 475 | 28.05        |
| 32-33                                                            | 76 104  | 481    | 6.33         | 34.86     | 75 864 | 157.72    | 2 653 141 | 28.69        |
| 33-34                                                            | 75 623  | 511    | 6.75         | 34.08     | 75 368 | 147.49    | 2 577 277 | 29.34        |
| 34-35                                                            | 75 112  | 536    | 7.14         | 33.31     | 74 844 | 139.63    | 2 501 909 | 30.02        |
| 35-36                                                            | 74 576  | 563    | 7.55         | 32.54     | 74 294 | 131.96    | 2 427 065 | 30.73        |
| 36-37                                                            | 74 013  | 581    | 7.85         | 31.79     | 73 722 | 126.89    | 2 352 771 | 31.46        |
| 37-38                                                            | 73 432  | 588    | 8.00         | 31.04     | 73 138 | 124.38    | 2 279 049 | 32.22        |
| 38-39                                                            | 72 844  | 586    | 8.05         | 30.28     | 72 551 | 123.81    | 2 205 911 | 33.03        |
| 39-40                                                            | 72 258  | 587    | 8.12         | 29.52     | 71 965 | 122.60    | 2 133 360 | 33.88        |
| 40-41                                                            | 71 671  | 588    | 8.21         | 28.76     | 71 377 | 121.39    | 2 061 395 | 34.77        |
| 41-42                                                            | 71 083  | 593    | 8.35         | 28.00     | 70 786 | 119.37    | 1 990 018 | 35.71        |
| 42-43                                                            | 70 490  | 607    | 8.61         | 27.23     | 70 186 | 115.63    | 1 919 232 | 36.72        |
| 43-44                                                            | 69 883  | 627    | 8.97         | 26.46     | 69 569 | 110.96    | 1 849 046 | 37.79        |
| 44-45                                                            | 69 256  | 648    | 9.36         | 25.69     | 68 932 | 106.38    | 1 779 477 | 38.93        |



## THE STATE OF NEW JERSEY: 1910.

## TABLE 54

REPORTED DEATHS IN 1909 (16,689), IN 1910 (18,281), AND IN 1911 (17,806).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE<br>INTERVAL. | OF 100,000 FEMALES BORN<br>ALIVE:                   |                                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND. | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                           | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                                                |                                                            |                                                                               |
|------------------|-----------------------------------------------------|--------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------|
|                  |                                                     |                                                  |                                          |                                                                                               | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                                        | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS. | DEATH RATE<br>PER THOUSAND.                                                   |
|                  | Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval.         | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval.                                                                                                                   | Including only<br>those in current<br>month or year<br>of age. | Population<br>per death in<br>age interval.                | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                               | $d_x$                                            | $1000q_x$                                | $e_x$                                                                                         | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                                      | $T_x$                                                      | $1000l_x/T_x$                                                                 |
| 1                | 2                                                   | 3                                                | 4                                        | 5                                                                                             | 6                                                                                                                                                                                                              | 7                                                              | 8                                                          | 9                                                                             |

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.

| Years.  |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
|---------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| 45-46   | 68 608 | 672   | 9.79         | 24.93     | 68 272 | 101.60    | 1 710 545 | 40.11        |
| 46-47   | 67 936 | 701   | 10.32        | 24.17     | 67 586 | 96.11     | 1 612 273 | 41.37        |
| 47-48   | 67 235 | 739   | 10.99        | 23.42     | 66 866 | 90.48     | 1 574 687 | 42.70        |
| 48-49   | 66 496 | 780   | 11.73        | 22.68     | 66 106 | 84.75     | 1 507 821 | 44.09        |
| 49-50   | 65 716 | 823   | 12.52        | 21.94     | 65 305 | 79.35     | 1 441 715 | 45.58        |
| 50-51   | 64 893 | 867   | 13.36        | 21.21     | 64 460 | 74.35     | 1 376 410 | 47.15        |
| 51-52   | 64 026 | 913   | 14.26        | 20.49     | 63 570 | 69.63     | 1 311 950 | 48.80        |
| 52-53   | 63 113 | 965   | 15.29        | 19.78     | 62 631 | 64.90     | 1 248 380 | 50.56        |
| 53-54   | 62 148 | 1 026 | 16.52        | 19.08     | 61 655 | 60.07     | 1 185 749 | 52.41        |
| 54-55   | 61 122 | 1 097 | 17.95        | 18.39     | 60 673 | 55.22     | 1 124 114 | 54.38        |
| 55-56   | 60 025 | 1 182 | 19.68        | 17.72     | 59 434 | 50.28     | 1 063 541 | 56.43        |
| 56-57   | 58 843 | 1 263 | 21.47        | 17.06     | 58 212 | 46.09     | 1 004 107 | 58.62        |
| 57-58   | 57 580 | 1 326 | 23.02        | 16.43     | 56 917 | 42.92     | 945 895   | 60.86        |
| 58-59   | 56 251 | 1 368 | 24.33        | 15.80     | 55 670 | 40.62     | 888 978   | 63.29        |
| 59-60   | 54 886 | 1 412 | 25.73        | 15.18     | 54 180 | 38.37     | 833 408   | 65.88        |
| 60-61   | 53 474 | 1 448 | 27.07        | 14.57     | 52 750 | 36.43     | 779 228   | 68.63        |
| 61-62   | 52 026 | 1 499 | 28.82        | 13.96     | 51 277 | 34.21     | 726 478   | 71.63        |
| 62-63   | 50 527 | 1 585 | 31.36        | 13.36     | 49 735 | 31.38     | 675 201   | 74.85        |
| 63-64   | 48 942 | 1 693 | 34.60        | 12.78     | 48 096 | 28.41     | 625 466   | 78.25        |
| 64-65   | 47 249 | 1 794 | 37.98        | 12.22     | 46 352 | 25.84     | 577 370   | 81.83        |
| 65-66   | 45 455 | 1 894 | 41.67        | 11.68     | 44 508 | 23.50     | 531 018   | 85.62        |
| 66-67   | 43 561 | 1 974 | 45.32        | 11.17     | 42 574 | 21.57     | 486 510   | 89.53        |
| 67-68   | 41 587 | 2 021 | 48.59        | 10.67     | 40 576 | 20.08     | 443 936   | 93.72        |
| 68-69   | 39 566 | 2 042 | 51.61        | 10.19     | 38 515 | 18.88     | 403 360   | 98.14        |
| 69-70   | 37 524 | 2 060 | 54.91        | 9.72      | 36 494 | 17.72     | 364 815   | 102.88       |
| 70-71   | 35 464 | 2 070 | 58.36        | 9.26      | 34 429 | 16.63     | 328 321   | 107.99       |
| 71-72   | 33 394 | 2 079 | 62.27        | 8.80      | 32 355 | 15.56     | 293 892   | 113.64       |
| 72-73   | 31 315 | 2 098 | 67.00        | 8.35      | 30 266 | 14.43     | 261 537   | 119.76       |
| 73-74   | 29 217 | 2 119 | 72.54        | 7.92      | 28 157 | 13.29     | 231 271   | 126.26       |
| 74-75   | 27 098 | 2 130 | 78.59        | 7.50      | 26 033 | 12.22     | 203 114   | 133.33       |
| 75-76   | 24 968 | 2 132 | 85.40        | 7.09      | 23 902 | 11.21     | 177 081   | 141.04       |
| 76-77   | 22 836 | 2 116 | 92.61        | 6.71      | 21 778 | 10.29     | 153 179   | 149.03       |
| 77-78   | 20 720 | 2 072 | 100.02       | 6.34      | 19 684 | 9.50      | 131 401   | 157.73       |
| 78-79   | 18 648 | 2 009 | 107.73       | 5.99      | 17 613 | 8.78      | 111 717   | 166.94       |
| 79-80   | 16 639 | 1 943 | 116.77       | 5.65      | 15 667 | 8.06      | 94 074    | 176.99       |
| 80-81   | 14 696 | 1 876 | 127.64       | 5.34      | 13 758 | 7.33      | 78 407    | 187.27       |
| 81-82   | 12 820 | 1 778 | 138.74       | 5.04      | 11 931 | 6.71      | 64 649    | 198.41       |
| 82-83   | 11 042 | 1 655 | 149.88       | 4.77      | 10 214 | 6.17      | 52 718    | 209.64       |
| 83-84   | 9 387  | 1 515 | 161.34       | 4.53      | 8 629  | 5.70      | 42 504    | 220.75       |
| 84-85   | 7 872  | 1 361 | 172.89       | 4.30      | 7 192  | 5.28      | 33 875    | 232.56       |
| 85-86   | 6 511  | 1 200 | 184.31       | 4.10      | 5 911  | 4.93      | 26 683    | 243.90       |
| 86-87   | 5 311  | 1 038 | 195.39       | 3.91      | 4 792  | 4.62      | 20 772    | 255.75       |
| 87-88   | 4 273  | 880   | 206.05       | 3.74      | 3 833  | 4.35      | 15 980    | 267.38       |
| 88-89   | 3 393  | 734   | 216.28       | 3.58      | 3 026  | 4.12      | 12 147    | 279.33       |
| 89-90   | 2 659  | 601   | 226.20       | 3.43      | 2 358  | 3.92      | 9 121     | 291.55       |
| 90-91   | 2 058  | 486   | 236.02       | 3.29      | 1 815  | 3.74      | 6 763     | 303.95       |
| 91-92   | 1 572  | 387   | 245.99       | 3.15      | 1 379  | 3.57      | 4 948     | 317.46       |
| 92-93   | 1 185  | 304   | 256.39       | 3.01      | 1 033  | 3.40      | 3 569     | 332.23       |
| 93-94   | 881    | 235   | 267.43       | 2.88      | 761    | 3.24      | 2 536     | 347.22       |
| 94-95   | 646    | 181   | 279.28       | 2.75      | 556    | 3.08      | 1 772     | 363.64       |
| 95-96   | 465    | 136   | 292.17       | 2.62      | 397    | 2.92      | 1 216     | 381.68       |
| 96-97   | 329    | 100   | 305.87       | 2.49      | 279    | 2.77      | 819       | 401.61       |
| 97-98   | 229    | 74    | 320.40       | 2.37      | 192    | 2.62      | 540       | 421.94       |
| 98-99   | 155    | 52    | 335.86       | 2.25      | 129    | 2.48      | 318       | 444.44       |
| 99-100  | 103    | 36    | 352.32       | 2.13      | 85     | 2.34      | 219       | 469.48       |
| 100-101 | 67     | 25    | 369.87       | 2.01      | 51     | 2.20      | 134       | 497.51       |
| 101-102 | 42     | 16    | 388.64       | 1.90      | 34     | 2.07      | 80        | 526.32       |
| 102-103 | 26     | 11    | 408.73       | 1.79      | 20     | 1.95      | 46        | 558.66       |
| 103-104 | 15     | 6     | 430.30       | 1.69      | 12     | 1.82      | 26        | 591.72       |
| 104-105 | 9      | 4     | 453.52       | 1.58      | 7      | 1.70      | 14        | 632.91       |
| 105-106 | 5      | 3     | 478.60       | 1.48      | 4      | 1.59      | 7         | 675.68       |
| 106-107 | 2      | 1     | 505.78       | 1.38      | 2      | 1.48      | 3         | 724.64       |
| 107-108 | 1      | 1     | 535.38       | 1.29      | 1      | 1.37      | 1         | 775.19       |

TABLE 55

## LIFE TABLE FOR MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (3,721,173), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE INTERVAL.                              | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                   | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                             | $T_x$                                                              | $1000/L_x T_x$                                                                               |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                       | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 13 818 | 138.18       | 15.62     | 90 051 | 6.52      | 4 561 973 | 21.92        |
| 1-2                                                              | 86 182  | 3 600  | 41.78        | 51.89     | 81 058 | 23.35     | 4 471 922 | 19.27        |
| 2-3                                                              | 82 582  | 1 564  | 18.91        | 53.13     | 81 753 | 52.27     | 4 387 861 | 18.82        |
| 3-4                                                              | 81 018  | 994    | 12.26        | 53.15     | 80 501 | 80.99     | 4 306 111 | 18.81        |
| 4-5                                                              | 80 024  | 743    | 9.29         | 52.80     | 79 638 | 107.18    | 4 225 610 | 18.94        |
| 5-6                                                              | 79 281  | 562    | 7.09         | 52.29     | 79 000 | 140.57    | 4 145 972 | 19.12        |
| 6-7                                                              | 78 719  | 451    | 5.77         | 51.66     | 78 492 | 172.89    | 4 066 972 | 19.36        |
| 7-8                                                              | 78 265  | 366    | 4.69         | 50.96     | 78 082 | 213.34    | 3 988 180 | 19.62        |
| 8-9                                                              | 77 899  | 299    | 3.81         | 50.20     | 77 719 | 260.03    | 3 910 308 | 19.92        |
| 9-10                                                             | 77 600  | 249    | 3.21         | 49.39     | 77 475 | 311.14    | 3 832 649 | 20.25        |
| 10-11                                                            | 77 351  | 216    | 2.80         | 48.55     | 77 243 | 357.61    | 3 755 174 | 20.60        |
| 11-12                                                            | 77 135  | 199    | 2.58         | 47.68     | 77 035 | 387.11    | 3 677 931 | 20.97        |
| 12-13                                                            | 76 936  | 197    | 2.56         | 46.80     | 76 837 | 390.04    | 3 600 896 | 21.37        |
| 13-14                                                            | 76 739  | 208    | 2.71         | 45.92     | 76 635 | 368.44    | 3 524 059 | 21.78        |
| 14-15                                                            | 76 531  | 230    | 3.00         | 45.05     | 76 416 | 332.24    | 3 447 424 | 22.20        |
| 15-16                                                            | 76 301  | 262    | 3.44         | 44.18     | 76 170 | 290.73    | 3 371 008 | 22.63        |
| 16-17                                                            | 76 039  | 304    | 4.00         | 43.33     | 75 887 | 249.63    | 3 294 838 | 23.08        |
| 17-18                                                            | 75 735  | 347    | 4.58         | 42.50     | 75 561 | 217.76    | 3 218 951 | 23.53        |
| 18-19                                                            | 75 388  | 383    | 5.10         | 41.70     | 75 196 | 195.31    | 3 143 390 | 23.98        |
| 19-20                                                            | 75 003  | 417    | 5.56         | 40.91     | 74 795 | 179.36    | 3 068 194 | 24.44        |
| 20-21                                                            | 74 586  | 452    | 6.06         | 40.13     | 74 360 | 164.51    | 2 993 399 | 24.92        |
| 21-22                                                            | 74 134  | 486    | 6.56         | 39.38     | 73 891 | 152.04    | 2 919 039 | 25.39        |
| 22-23                                                            | 73 618  | 515    | 7.00         | 38.63     | 73 390 | 142.50    | 2 845 148 | 25.89        |
| 23-24                                                            | 73 133  | 538    | 7.35         | 37.90     | 72 864 | 135.43    | 2 771 758 | 26.39        |
| 24-25                                                            | 72 595  | 555    | 7.65         | 37.18     | 72 317 | 130.30    | 2 698 894 | 26.90        |
| 25-26                                                            | 72 010  | 572    | 7.94         | 36.46     | 71 754 | 125.44    | 2 626 577 | 27.43        |
| 26-27                                                            | 71 468  | 588    | 8.22         | 35.75     | 71 174 | 121.04    | 2 554 823 | 27.97        |
| 27-28                                                            | 70 880  | 604    | 8.52         | 35.04     | 70 578 | 116.85    | 2 483 649 | 28.54        |
| 28-29                                                            | 70 276  | 622    | 8.86         | 34.34     | 69 965 | 112.48    | 2 413 071 | 29.12        |
| 29-30                                                            | 69 654  | 643    | 9.23         | 33.64     | 69 333 | 107.83    | 2 343 106 | 29.73        |
| 30-31                                                            | 69 011  | 662    | 9.60         | 32.95     | 68 680 | 103.75    | 2 273 773 | 30.35        |
| 31-32                                                            | 68 349  | 683    | 9.99         | 32.26     | 68 007 | 99.57     | 2 205 093 | 31.00        |
| 32-33                                                            | 67 666  | 702    | 10.37        | 31.58     | 67 315 | 95.89     | 2 137 086 | 31.67        |
| 33-34                                                            | 66 961  | 717    | 10.71        | 30.91     | 66 606 | 92.90     | 2 069 771 | 32.35        |
| 34-35                                                            | 66 247  | 731    | 11.03        | 30.24     | 65 882 | 90.13     | 2 003 165 | 33.07        |
| 35-36                                                            | 65 516  | 744    | 11.36        | 29.57     | 65 144 | 87.56     | 1 937 283 | 33.82        |
| 36-37                                                            | 64 772  | 757    | 11.68        | 28.90     | 64 394 | 85.06     | 1 872 139 | 34.60        |
| 37-38                                                            | 64 015  | 770    | 12.02        | 28.21     | 63 630 | 82.64     | 1 807 745 | 35.41        |
| 38-39                                                            | 63 245  | 781    | 12.10        | 27.58     | 62 853 | 80.17     | 1 744 115 | 36.26        |
| 39-40                                                            | 62 461  | 799    | 12.80        | 26.92     | 62 061 | 77.67     | 1 681 262 | 37.15        |
| 40-41                                                            | 61 662  | 816    | 13.23        | 26.26     | 61 254 | 75.07     | 1 619 201 | 38.08        |
| 41-42                                                            | 60 846  | 833    | 13.69        | 25.60     | 60 429 | 72.54     | 1 557 947 | 39.06        |
| 42-43                                                            | 60 013  | 848    | 14.14        | 24.95     | 59 589 | 70.27     | 1 497 518 | 40.08        |
| 43-44                                                            | 59 165  | 860    | 14.53        | 24.30     | 58 735 | 68.30     | 1 437 929 | 41.15        |
| 44-45                                                            | 58 305  | 870    | 14.92        | 23.65     | 57 870 | 66.52     | 1 379 194 | 42.28        |

## THE STATE OF NEW YORK: 1901.

## TABLE 55

REPORTED DEATHS IN 1900 (69,687), IN 1901 (70,070), AND IN 1902 (66,841).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE<br>INTERVAL.                                    | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 57 435 | 882   | 15.35        | 23.01     | 56 994 | 64.62     | 1 321 324 | 43.46        |
| 46-47                                                                      | 56 553 | 895   | 15.83        | 22.36     | 56 106 | 62.69     | 1 264 330 | 44.72        |
| 47-48                                                                      | 55 658 | 913   | 16.42        | 21.71     | 55 201 | 60.16     | 1 208 224 | 46.06        |
| 48-49                                                                      | 54 745 | 940   | 17.16        | 21.06     | 54 275 | 57.74     | 1 153 023 | 47.48        |
| 49-50                                                                      | 53 805 | 969   | 18.01        | 20.42     | 53 321 | 55.03     | 1 098 748 | 48.97        |
| 50-51                                                                      | 52 836 | 997   | 18.88        | 19.79     | 52 338 | 52.50     | 1 045 427 | 50.53        |
| 51-52                                                                      | 51 839 | 1 026 | 19.78        | 19.16     | 51 326 | 50.03     | 993 089   | 52.19        |
| 52-53                                                                      | 50 813 | 1 054 | 20.76        | 18.53     | 50 286 | 47.71     | 941 763   | 53.97        |
| 53-54                                                                      | 49 759 | 1 088 | 21.86        | 17.92     | 49 215 | 46.23     | 891 477   | 55.80        |
| 54-55                                                                      | 48 671 | 1 126 | 23.14        | 17.31     | 48 108 | 42.72     | 842 262   | 57.77        |
| 55-56                                                                      | 47 545 | 1 169 | 24.58        | 16.70     | 46 961 | 40.17     | 794 154   | 59.88        |
| 56-57                                                                      | 46 376 | 1 216 | 26.23        | 16.11     | 45 768 | 37.64     | 747 193   | 62.07        |
| 57-58                                                                      | 45 160 | 1 264 | 27.99        | 15.53     | 44 528 | 35.23     | 701 425   | 64.39        |
| 58-59                                                                      | 43 896 | 1 303 | 29.69        | 14.96     | 43 244 | 33.19     | 656 897   | 66.84        |
| 59-60                                                                      | 42 593 | 1 333 | 31.30        | 14.41     | 41 926 | 31.45     | 613 653   | 69.40        |
| 60-61                                                                      | 41 260 | 1 362 | 32.99        | 13.86     | 40 579 | 29.79     | 571 727   | 72.15        |
| 61-62                                                                      | 39 898 | 1 384 | 34.70        | 13.31     | 39 206 | 28.33     | 531 148   | 75.13        |
| 62-63                                                                      | 38 514 | 1 411 | 36.64        | 12.77     | 37 808 | 26.80     | 491 942   | 78.31        |
| 63-64                                                                      | 37 103 | 1 450 | 39.08        | 12.24     | 36 378 | 25.09     | 454 134   | 81.70        |
| 64-65                                                                      | 35 653 | 1 499 | 42.03        | 11.72     | 34 904 | 23.28     | 417 756   | 85.32        |
| 65-66                                                                      | 34 154 | 1 544 | 45.22        | 11.21     | 33 382 | 21.62     | 382 832   | 89.21        |
| 66-67                                                                      | 32 610 | 1 591 | 48.79        | 10.72     | 31 815 | 20.00     | 349 470   | 93.28        |
| 67-68                                                                      | 31 019 | 1 629 | 52.52        | 10.24     | 30 205 | 18.54     | 317 655   | 97.66        |
| 68-69                                                                      | 29 390 | 1 648 | 56.07        | 9.78      | 28 566 | 17.33     | 287 450   | 102.25       |
| 69-70                                                                      | 27 742 | 1 649 | 59.46        | 9.33      | 26 917 | 16.32     | 258 884   | 107.18       |
| 70-71                                                                      | 26 093 | 1 647 | 63.09        | 8.89      | 25 269 | 15.34     | 231 967   | 112.49       |
| 71-72                                                                      | 24 446 | 1 634 | 66.85        | 8.46      | 23 629 | 14.46     | 206 698   | 118.20       |
| 72-73                                                                      | 22 812 | 1 621 | 71.06        | 8.03      | 22 002 | 13.57     | 183 069   | 124.53       |
| 73-74                                                                      | 21 191 | 1 615 | 76.20        | 7.60      | 20 384 | 12.62     | 161 067   | 131.58       |
| 74-75                                                                      | 19 576 | 1 611 | 82.33        | 7.19      | 18 770 | 11.65     | 140 683   | 139.08       |
| 75-76                                                                      | 17 965 | 1 600 | 89.04        | 6.79      | 17 165 | 10.73     | 121 913   | 147.28       |
| 76-77                                                                      | 16 365 | 1 580 | 96.57        | 6.40      | 15 575 | 9.86      | 104 748   | 156.25       |
| 77-78                                                                      | 14 785 | 1 556 | 105.22       | 6.03      | 14 007 | 9.00      | 89 173    | 165.84       |
| 78-79                                                                      | 13 229 | 1 518 | 114.75       | 5.68      | 12 470 | 8.21      | 75 166    | 176.06       |
| 79-80                                                                      | 11 711 | 1 465 | 125.10       | 5.35      | 10 978 | 7.49      | 62 696    | 186.92       |
| 80-81                                                                      | 10 246 | 1 394 | 136.04       | 5.05      | 9 549  | 6.85      | 51 718    | 198.02       |
| 81-82                                                                      | 8 852  | 1 304 | 147.32       | 4.76      | 8 200  | 6.29      | 42 169    | 210.08       |
| 82-83                                                                      | 7 518  | 1 198 | 158.76       | 4.50      | 6 949  | 5.80      | 33 969    | 222.22       |
| 83-84                                                                      | 6 350  | 1 081 | 170.24       | 4.26      | 5 809  | 5.37      | 27 020    | 234.74       |
| 84-85                                                                      | 5 269  | 958   | 181.79       | 4.03      | 4 790  | 5.00      | 21 211    | 248.14       |
| 85-86                                                                      | 4 311  | 834   | 193.52       | 3.81      | 3 894  | 4.67      | 16 421    | 262.47       |
| 86-87                                                                      | 3 477  | 715   | 205.65       | 3.60      | 3 119  | 4.36      | 12 527    | 277.78       |
| 87-88                                                                      | 2 762  | 603   | 218.36       | 3.41      | 2 460  | 4.08      | 9 408     | 293.26       |
| 88-89                                                                      | 2 159  | 501   | 231.82       | 3.22      | 1 908  | 3.81      | 6 948     | 310.56       |
| 89-90                                                                      | 1 658  | 408   | 246.10       | 3.04      | 1 454  | 3.56      | 5 040     | 328.96       |
| 90-91                                                                      | 1 250  | 326   | 261.23       | 2.87      | 1 087  | 3.33      | 3 586     | 348.43       |
| 91-92                                                                      | 924    | 256   | 277.16       | 2.70      | 796    | 3.11      | 2 499     | 370.37       |
| 92-93                                                                      | 668    | 197   | 293.85       | 2.55      | 570    | 2.90      | 1 703     | 392.16       |
| 93-94                                                                      | 471    | 146   | 311.30       | 2.40      | 398    | 2.71      | 1 133     | 416.67       |
| 94-95                                                                      | 325    | 107   | 329.58       | 2.26      | 271    | 2.53      | 735       | 442.48       |
| 95-96                                                                      | 218    | 76    | 348.80       | 2.13      | 180    | 2.37      | 464       | 469.48       |
| 96-97                                                                      | 142    | 53    | 369.07       | 2.00      | 116    | 2.21      | 284       | 500.00       |
| 97-98                                                                      | 89     | 34    | 390.46       | 1.88      | 72     | 2.06      | 168       | 531.91       |
| 98-99                                                                      | 55     | 23    | 413.03       | 1.76      | 43     | 1.92      | 96        | 568.18       |
| 99-100                                                                     | 32     | 14    | 436.82       | 1.65      | 25     | 1.79      | 53        | 606.06       |
| 100-101                                                                    | 18     | 8     | 461.84       | 1.55      | 14     | 1.67      | 28        | 645.16       |
| 101-102                                                                    | 10     | 5     | 488.14       | 1.45      | 7      | 1.55      | 14        | 689.66       |
| 102-103                                                                    | 5      | 3     | 515.79       | 1.35      | 4      | 1.44      | 7         | 740.74       |
| 103-104                                                                    | 2      | 1     | 544.82       | 1.26      | 2      | 1.34      | 3         | 793.65       |
| 104-105                                                                    | 1      | 1     | 575.27       | 1.18      | 1      | 1.24      | 1         | 847.46       |

TABLE 56

## LIFE TABLE FOR MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (4,605,057), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE<br>INTERVAL.                                    | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |         |       |               |           |       |            |           |              |
|--------------------------------------------------------------------|---------|-------|---------------|-----------|-------|------------|-----------|--------------|
| Months.                                                            |         |       | Monthly rate. | In years. |       | Per month. |           | Annual rate. |
| 0-1                                                                | 100 000 | 4 735 | 47.35         | 47.89     | 8 037 | 20.40      | 4 788 999 | 20.88        |
| 1-2                                                                | 95 265  | 1 286 | 13.50         | 50.19     | 7 885 | 73.56      | 4 780 962 | 19.92        |
| 2-3                                                                | 93 979  | 1 076 | 11.44         | 50.79     | 7 787 | 86.88      | 4 773 077 | 19.69        |
| 3-4                                                                | 92 903  | 913   | 9.83          | 51.29     | 7 704 | 101.28     | 4 765 290 | 19.50        |
| 4-5                                                                | 91 990  | 796   | 8.65          | 51.72     | 7 633 | 115.08     | 4 757 586 | 19.33        |
| 5-6                                                                | 91 194  | 705   | 7.73          | 52.09     | 7 570 | 128.88     | 4 749 953 | 19.20        |
| 6-7                                                                | 90 489  | 631   | 6.98          | 52.41     | 7 514 | 142.92     | 4 742 383 | 19.08        |
| 7-8                                                                | 89 858  | 577   | 6.42          | 52.69     | 7 461 | 155.28     | 4 734 869 | 18.98        |
| 8-9                                                                | 89 281  | 536   | 6.00          | 52.95     | 7 418 | 166.08     | 4 727 405 | 18.89        |
| 9-10                                                               | 88 745  | 506   | 5.70          | 53.19     | 7 374 | 171.84     | 4 719 987 | 18.80        |
| 10-11                                                              | 88 239  | 483   | 5.48          | 53.41     | 7 333 | 182.16     | 4 712 613 | 18.72        |
| 11-12                                                              | 87 756  | 469   | 5.35          | 53.62     | 7 293 | 186.60     | 4 705 280 | 18.65        |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 12 713 | 127.13       | 47.89     | 91 012 | 7.16      | 4 788 999 | 20.88        |
| 1-2                                                              | 87 287  | 2 937  | 33.61        | 53.82     | 85 554 | 29.13     | 4 697 987 | 18.58        |
| 2-3                                                              | 84 350  | 1 313  | 15.56        | 54.68     | 83 654 | 63.71     | 4 612 433 | 18.29        |
| 3-4                                                              | 83 037  | 773    | 9.31         | 54.51     | 82 635 | 106.90    | 4 528 779 | 18.31        |
| 4-5                                                              | 82 261  | 538    | 6.55         | 54.05     | 81 984 | 152.39    | 4 446 144 | 18.50        |
| 5-6                                                              | 81 726  | 440    | 5.38         | 53.40     | 81 506 | 185.24    | 4 364 160 | 18.73        |
| 6-7                                                              | 81 286  | 362    | 4.45         | 52.69     | 81 105 | 221.05    | 4 282 654 | 18.98        |
| 7-8                                                              | 80 924  | 299    | 3.70         | 51.92     | 80 774 | 270.15    | 4 201 549 | 19.26        |
| 8-9                                                              | 80 625  | 251    | 3.11         | 51.11     | 80 499 | 320.71    | 4 120 775 | 19.67        |
| 9-10                                                             | 80 374  | 216    | 2.69         | 50.27     | 80 266 | 371.60    | 4 040 276 | 19.89        |
| 10-11                                                            | 80 158  | 194    | 2.42         | 49.40     | 80 061 | 412.69    | 3 960 010 | 20.24        |
| 11-12                                                            | 79 964  | 181    | 2.30         | 48.52     | 79 872 | 434.09    | 3 879 919 | 20.61        |
| 12-13                                                            | 79 780  | 185    | 2.32         | 47.63     | 79 687 | 430.74    | 3 800 077 | 21.00        |
| 13-14                                                            | 79 595  | 195    | 2.45         | 46.74     | 79 497 | 407.68    | 3 720 390 | 21.39        |
| 14-15                                                            | 79 400  | 213    | 2.68         | 45.86     | 79 293 | 372.27    | 3 640 893 | 21.81        |
| 15-16                                                            | 79 187  | 237    | 2.99         | 44.98     | 79 068 | 333.62    | 3 561 600 | 22.23        |
| 16-17                                                            | 78 950  | 266    | 3.37         | 44.11     | 78 817 | 296.30    | 3 482 532 | 22.67        |
| 17-18                                                            | 78 684  | 297    | 3.77         | 43.26     | 78 536 | 264.43    | 3 403 715 | 23.12        |
| 18-19                                                            | 78 387  | 328    | 4.19         | 42.42     | 78 223 | 238.18    | 3 325 179 | 23.57        |
| 19-20                                                            | 78 059  | 361    | 4.62         | 41.60     | 77 878 | 215.73    | 3 246 956 | 24.04        |
| 20-21                                                            | 77 698  | 394    | 5.07         | 40.79     | 77 501 | 196.70    | 3 169 078 | 24.52        |
| 21-22                                                            | 77 304  | 419    | 5.42         | 39.99     | 77 095 | 184.00    | 3 091 577 | 25.01        |
| 22-23                                                            | 76 883  | 433    | 5.63         | 39.21     | 76 669 | 177.06    | 3 014 482 | 25.50        |
| 23-24                                                            | 76 432  | 440    | 5.76         | 38.42     | 76 232 | 173.25    | 2 937 813 | 26.02        |
| 24-25                                                            | 76 012  | 448    | 5.90         | 37.65     | 75 789 | 169.17    | 2 861 581 | 26.56        |
| 25-26                                                            | 75 564  | 457    | 6.05         | 36.87     | 75 335 | 161.85    | 2 785 793 | 27.12        |
| 26-27                                                            | 75 107  | 468    | 6.23         | 36.09     | 74 873 | 159.99    | 2 710 458 | 27.71        |
| 27-28                                                            | 74 639  | 484    | 6.48         | 35.31     | 74 397 | 153.71    | 2 635 585 | 28.32        |
| 28-29                                                            | 74 153  | 505    | 6.80         | 34.54     | 73 902 | 146.34    | 2 561 183 | 28.95        |
| 29-30                                                            | 73 650  | 526    | 7.14         | 33.77     | 73 387 | 139.52    | 2 487 286 | 29.61        |
| 30-31                                                            | 73 124  | 548    | 7.50         | 33.01     | 72 850 | 132.94    | 2 413 899 | 30.29        |
| 31-32                                                            | 72 576  | 577    | 7.95         | 32.26     | 72 288 | 125.28    | 2 341 049 | 31.00        |
| 32-33                                                            | 71 999  | 610    | 8.47         | 31.51     | 71 694 | 117.53    | 2 268 761 | 31.74        |
| 33-34                                                            | 71 389  | 645    | 9.04         | 30.78     | 71 067 | 110.18    | 2 197 067 | 32.49        |
| 34-35                                                            | 70 744  | 679    | 9.61         | 30.05     | 70 404 | 103.69    | 2 126 000 | 33.28        |
| 35-36                                                            | 70 065  | 714    | 10.19        | 29.34     | 69 708 | 97.63     | 2 055 596 | 34.08        |
| 36-37                                                            | 69 351  | 741    | 10.72        | 28.64     | 68 979 | 92.71     | 1 985 888 | 34.92        |
| 37-38                                                            | 68 607  | 767    | 11.18        | 27.94     | 68 224 | 88.95     | 1 916 909 | 35.79        |
| 38-39                                                            | 67 840  | 786    | 11.59        | 27.25     | 67 447 | 85.81     | 1 848 685 | 36.70        |
| 39-40                                                            | 67 054  | 807    | 12.03        | 26.56     | 66 651 | 82.59     | 1 781 238 | 37.65        |
| 40-41                                                            | 66 247  | 827    | 12.49        | 25.88     | 65 834 | 79.61     | 1 714 587 | 38.64        |
| 41-42                                                            | 65 420  | 848    | 12.97        | 25.20     | 64 996 | 76.65     | 1 648 753 | 39.68        |
| 42-43                                                            | 64 572  | 871    | 13.49        | 24.53     | 64 136 | 73.63     | 1 583 757 | 40.77        |
| 43-44                                                            | 63 701  | 896    | 14.06        | 23.86     | 63 253 | 70.59     | 1 519 621 | 41.91        |
| 44-45                                                            | 62 805  | 920    | 14.65        | 23.19     | 62 345 | 67.77     | 1 456 368 | 43.12        |

## THE STATE OF NEW YORK: 1910.

TABLE 56

REPORTED DEATHS IN 1909 (75,466), IN 1910 (79,664), AND IN 1911 (78,368).

Illustrative examples, showing how to use the tables, are given on pages 20 to 49.

| AGE<br>INTERVAL.                                    | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 61 885 | 947   | 15.30        | 22.53     | 61 412 | 61.85     | 1 394 023 | 44.39        |
| 46-47                                                                      | 60 938 | 974   | 15.99        | 21.87     | 60 451 | 62.06     | 1 332 611 | 45.72        |
| 47-48                                                                      | 59 964 | 1 002 | 16.70        | 21.22     | 59 463 | 59.34     | 1 272 160 | 47.13        |
| 48-49                                                                      | 58 962 | 1 027 | 17.42        | 20.57     | 58 449 | 56.91     | 1 212 697 | 48.61        |
| 49-50                                                                      | 57 935 | 1 053 | 18.18        | 19.92     | 57 408 | 51.52     | 1 154 248 | 50.20        |
| 50-51                                                                      | 56 882 | 1 078 | 18.95        | 19.28     | 56 343 | 52.27     | 1 096 840 | 51.87        |
| 51-52                                                                      | 55 804 | 1 106 | 19.82        | 18.65     | 55 251 | 49.96     | 1 049 497 | 53.62        |
| 52-53                                                                      | 54 698 | 1 143 | 20.90        | 18.01     | 54 127 | 47.36     | 985 246   | 55.52        |
| 53-54                                                                      | 53 553 | 1 190 | 22.22        | 17.39     | 52 960 | 44.50     | 931 119   | 57.50        |
| 54-55                                                                      | 52 365 | 1 242 | 23.72        | 16.77     | 51 744 | 41.66     | 878 159   | 59.63        |
| 55-56                                                                      | 51 123 | 1 301 | 25.45        | 16.17     | 50 473 | 38.80     | 826 415   | 61.84        |
| 56-57                                                                      | 49 822 | 1 364 | 27.38        | 15.57     | 49 140 | 36.03     | 775 912   | 64.23        |
| 57-58                                                                      | 48 458 | 1 422 | 29.35        | 15.00     | 47 747 | 33.58     | 726 802   | 66.67        |
| 58-59                                                                      | 47 036 | 1 473 | 31.30        | 14.44     | 46 300 | 31.43     | 679 055   | 69.25        |
| 59-60                                                                      | 45 563 | 1 523 | 33.43        | 13.89     | 44 802 | 29.42     | 632 755   | 71.99        |
| 60-61                                                                      | 44 040 | 1 573 | 35.72        | 13.35     | 43 253 | 27.50     | 587 953   | 74.91        |
| 61-62                                                                      | 42 467 | 1 618 | 38.09        | 12.83     | 41 658 | 25.75     | 544 700   | 77.94        |
| 62-63                                                                      | 40 849 | 1 656 | 40.54        | 12.31     | 40 021 | 24.17     | 503 042   | 81.23        |
| 63-64                                                                      | 39 193 | 1 689 | 43.10        | 11.81     | 38 349 | 22.71     | 463 021   | 84.67        |
| 64-65                                                                      | 37 504 | 1 716 | 45.76        | 11.32     | 36 646 | 21.36     | 424 672   | 88.34        |
| 65-66                                                                      | 35 788 | 1 735 | 48.47        | 10.84     | 34 921 | 20.13     | 388 026   | 92.25        |
| 66-67                                                                      | 34 053 | 1 752 | 51.15        | 10.37     | 33 177 | 18.94     | 353 105   | 96.43        |
| 67-68                                                                      | 32 301 | 1 772 | 54.87        | 9.90      | 31 415 | 17.73     | 319 928   | 101.01       |
| 68-69                                                                      | 30 529 | 1 793 | 58.74        | 9.45      | 29 632 | 16.53     | 288 513   | 105.82       |
| 69-70                                                                      | 28 736 | 1 806 | 62.85        | 9.01      | 27 833 | 15.41     | 258 881   | 110.99       |
| 70-71                                                                      | 26 930 | 1 812 | 67.28        | 8.58      | 26 024 | 14.36     | 231 048   | 116.55       |
| 71-72                                                                      | 25 118 | 1 811 | 72.07        | 8.16      | 24 213 | 13.37     | 205 024   | 122.55       |
| 72-73                                                                      | 23 307 | 1 800 | 77.26        | 7.76      | 22 407 | 12.45     | 180 811   | 128.87       |
| 73-74                                                                      | 21 507 | 1 783 | 82.88        | 7.37      | 20 616 | 11.56     | 158 404   | 135.69       |
| 74-75                                                                      | 19 724 | 1 758 | 89.12        | 6.99      | 18 845 | 10.72     | 137 788   | 143.06       |
| 75-76                                                                      | 17 966 | 1 727 | 96.16        | 6.62      | 17 103 | 9.90      | 118 943   | 151.06       |
| 76-77                                                                      | 16 239 | 1 682 | 103.55       | 6.27      | 15 398 | 9.15      | 101 840   | 159.42       |
| 77-78                                                                      | 14 557 | 1 616 | 111.00       | 5.94      | 13 749 | 8.51      | 86 442    | 168.35       |
| 78-79                                                                      | 12 911 | 1 536 | 118.69       | 5.62      | 12 173 | 7.93      | 72 693    | 177.94       |
| 79-80                                                                      | 11 405 | 1 454 | 127.48       | 5.31      | 10 678 | 7.34      | 60 520    | 188.32       |
| 80-81                                                                      | 9 951  | 1 376 | 138.29       | 5.01      | 9 263  | 6.73      | 49 842    | 199.60       |
| 81-82                                                                      | 8 575  | 1 279 | 149.16       | 4.73      | 7 946  | 6.20      | 40 579    | 211.42       |
| 82-83                                                                      | 7 296  | 1 174 | 160.89       | 4.47      | 6 709  | 5.73      | 32 643    | 223.71       |
| 83-84                                                                      | 6 122  | 1 061 | 173.27       | 4.24      | 5 632  | 5.27      | 25 931    | 235.85       |
| 84-85                                                                      | 5 061  | 941   | 185.93       | 4.02      | 4 631  | 4.88      | 20 312    | 248.76       |
| 85-86                                                                      | 4 120  | 817   | 198.44       | 3.82      | 3 712  | 4.54      | 15 751    | 261.78       |
| 86-87                                                                      | 3 303  | 695   | 210.43       | 3.65      | 2 955  | 4.25      | 12 039    | 273.97       |
| 87-88                                                                      | 2 608  | 578   | 221.70       | 3.48      | 2 319  | 4.01      | 9 084     | 287.36       |
| 88-89                                                                      | 2 030  | 472   | 232.29       | 3.33      | 1 794  | 3.81      | 6 765     | 300.30       |
| 89-90                                                                      | 1 558  | 378   | 242.46       | 3.19      | 1 369  | 3.62      | 4 971     | 313.48       |
| 90-91                                                                      | 1 180  | 298   | 252.62       | 3.05      | 1 031  | 3.16      | 3 602     | 327.87       |
| 91-92                                                                      | 882    | 232   | 263.22       | 2.91      | 766    | 3.30      | 2 571     | 343.84       |
| 92-93                                                                      | 650    | 179   | 274.62       | 2.78      | 561    | 3.14      | 1 805     | 359.71       |
| 93-94                                                                      | 471    | 135   | 287.18       | 2.64      | 404    | 2.98      | 1 244     | 378.79       |
| 94-95                                                                      | 336    | 101   | 301.18       | 2.50      | 285    | 2.82      | 840       | 400.00       |
| 95-96                                                                      | 235    | 75    | 316.80       | 2.36      | 198    | 2.66      | 555       | 423.73       |
| 96-97                                                                      | 160    | 53    | 331.18       | 2.22      | 134    | 2.49      | 357       | 450.45       |
| 97-98                                                                      | 107    | 38    | 353.45       | 2.09      | 88     | 2.33      | 223       | 478.47       |
| 98-99                                                                      | 69     | 26    | 374.71       | 1.95      | 56     | 2.17      | 135       | 512.82       |
| 99-100                                                                     | 43     | 17    | 398.09       | 1.82      | 35     | 2.01      | 79        | 549.45       |
| 100-101                                                                    | 26     | 11    | 423.61       | 1.70      | 20     | 1.86      | 44        | 588.24       |
| 101-102                                                                    | 15     | 7     | 451.21       | 1.58      | 12     | 1.72      | 24        | 632.91       |
| 102-103                                                                    | 8      | 4     | 480.72       | 1.46      | 6      | 1.58      | 12        | 684.93       |
| 103-104                                                                    | 4      | 2     | 511.95       | 1.36      | 3      | 1.45      | 6         | 735.29       |
| 104-105                                                                    | 2      | 1     | 544.74       | 1.26      | 2      | 1.34      | 3         | 793.65       |
| 105-106                                                                    | 1      | 1     | 578.76       | 1.16      | 1      | 1.23      | 1         | 862.07       |

TABLE 57

## LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (3,750,095), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 20, and

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 11 604 | 116.04       | 49.26     | 91 761 | 7.91      | 4 925 665 | 20.30        |
| 1-2                                                              | 88 396  | 3 292  | 37.24        | 54.68     | 86 453 | 26.26     | 4 833 904 | 18.29        |
| 2-3                                                              | 85 101  | 1 489  | 17.49        | 55.78     | 84 315 | 56.63     | 4 747 451 | 17.93        |
| 3-4                                                              | 83 615  | 952    | 11.39        | 55.77     | 83 120 | 87.31     | 4 663 136 | 17.93        |
| 4-5                                                              | 82 663  | 740    | 8.95         | 55.41     | 82 278 | 111.19    | 4 580 016 | 18.05        |
| 5-6                                                              | 81 923  | 570    | 6.96         | 54.90     | 81 638 | 143.22    | 4 497 738 | 18.21        |
| 6-7                                                              | 81 353  | 439    | 5.40         | 54.28     | 81 133 | 181.81    | 4 416 100 | 18.42        |
| 7-8                                                              | 80 914  | 311    | 4.22         | 53.57     | 80 743 | 236.78    | 4 334 967 | 18.67        |
| 8-9                                                              | 80 573  | 272    | 3.37         | 52.80     | 80 437 | 295.72    | 4 254 224 | 18.94        |
| 9-10                                                             | 80 301  | 225    | 2.81         | 51.98     | 80 189 | 356.40    | 4 173 787 | 19.24        |
| 10-11                                                            | 80 076  | 200    | 2.50         | 51.12     | 79 976 | 399.88    | 4 093 598 | 19.56        |
| 11-12                                                            | 79 876  | 192    | 2.40         | 50.25     | 79 780 | 415.52    | 4 013 622 | 19.90        |
| 12-13                                                            | 79 684  | 195    | 2.46         | 49.37     | 79 586 | 408.13    | 3 933 842 | 20.26        |
| 13-14                                                            | 79 469  | 210    | 2.63         | 48.49     | 79 381 | 378.02    | 3 854 256 | 20.62        |
| 14-15                                                            | 79 279  | 228    | 2.89         | 47.62     | 79 165 | 347.21    | 3 774 872 | 21.00        |
| 15-16                                                            | 79 051  | 257    | 3.24         | 46.75     | 78 923 | 307.09    | 3 695 707 | 21.39        |
| 16-17                                                            | 78 794  | 290    | 3.68         | 45.90     | 78 649 | 271.20    | 3 616 784 | 21.79        |
| 17-18                                                            | 78 504  | 324    | 4.13         | 45.07     | 78 342 | 241.80    | 3 538 135 | 22.19        |
| 18-19                                                            | 78 180  | 355    | 4.54         | 44.25     | 78 002 | 219.72    | 3 459 793 | 22.60        |
| 19-20                                                            | 77 825  | 382    | 4.90         | 43.45     | 77 634 | 203.23    | 3 381 791 | 23.01        |
| 20-21                                                            | 77 443  | 409    | 5.28         | 42.67     | 77 239 | 188.85    | 3 304 157 | 23.44        |
| 21-22                                                            | 77 034  | 436    | 5.66         | 41.89     | 76 816 | 176.18    | 3 226 918 | 23.87        |
| 22-23                                                            | 76 598  | 459    | 6.00         | 41.13     | 76 368 | 166.38    | 3 150 102 | 24.31        |
| 23-24                                                            | 76 139  | 481    | 6.31         | 40.37     | 75 898 | 157.79    | 3 073 734 | 24.77        |
| 24-25                                                            | 75 658  | 499    | 6.60         | 39.62     | 75 409 | 151.12    | 2 997 836 | 25.24        |
| 25-26                                                            | 75 159  | 518    | 6.89         | 38.88     | 74 900 | 144.59    | 2 922 427 | 25.72        |
| 26-27                                                            | 74 641  | 537    | 7.19         | 38.15     | 74 373 | 138.50    | 2 847 527 | 26.21        |
| 27-28                                                            | 74 104  | 553    | 7.47         | 37.42     | 73 827 | 133.50    | 2 773 154 | 26.72        |
| 28-29                                                            | 73 551  | 569    | 7.74         | 36.70     | 73 266 | 128.76    | 2 699 327 | 27.25        |
| 29-30                                                            | 72 982  | 583    | 7.99         | 35.98     | 72 690 | 124.68    | 2 626 061 | 27.79        |
| 30-31                                                            | 72 399  | 597    | 8.25         | 35.27     | 72 100 | 120.77    | 2 553 371 | 28.35        |
| 31-32                                                            | 71 802  | 613    | 8.53         | 34.56     | 71 496 | 116.63    | 2 481 271 | 28.94        |
| 32-33                                                            | 71 189  | 624    | 8.77         | 33.85     | 70 877 | 113.58    | 2 409 775 | 29.54        |
| 33-34                                                            | 70 565  | 630    | 8.93         | 33.15     | 70 250 | 111.51    | 2 338 898 | 30.17        |
| 34-35                                                            | 69 935  | 631    | 9.03         | 32.44     | 69 619 | 110.33    | 2 268 648 | 30.83        |
| 35-36                                                            | 69 304  | 634    | 9.14         | 31.73     | 68 987 | 108.81    | 2 199 029 | 31.52        |
| 36-37                                                            | 68 670  | 633    | 9.22         | 31.02     | 68 354 | 107.98    | 2 130 042 | 32.24        |
| 37-38                                                            | 68 037  | 636    | 9.36         | 30.30     | 67 719 | 106.46    | 2 061 688 | 33.00        |
| 38-39                                                            | 67 401  | 649    | 9.62         | 29.58     | 67 076 | 103.35    | 1 993 969 | 33.81        |
| 39-40                                                            | 66 752  | 665    | 9.96         | 28.87     | 66 420 | 99.88     | 1 926 893 | 34.64        |
| 40-41                                                            | 66 087  | 682    | 10.33        | 28.15     | 65 746 | 96.40     | 1 860 473 | 35.52        |
| 41-42                                                            | 65 405  | 704    | 10.76        | 27.44     | 65 053 | 92.40     | 1 794 727 | 36.44        |
| 42-43                                                            | 64 701  | 721    | 11.15        | 26.73     | 64 340 | 89.24     | 1 729 674 | 37.41        |
| 43-44                                                            | 63 980  | 731    | 11.42        | 26.03     | 63 615 | 87.02     | 1 665 334 | 38.42        |
| 44-45                                                            | 63 249  | 736    | 11.64        | 25.32     | 62 881 | 85.44     | 1 601 719 | 39.49        |



## THE STATE OF NEW YORK: 1901.

## TABLE 57

REPORTED DEATHS IN 1900 (62,665), IN 1901 (61,391), AND IN 1902 (57,816).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE<br>INTERVAL. | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                  |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
|                  | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 62 513 | 744   | 11.90        | 24.62     | 62 111 | 83.52     | 1 538 838 | 40.62        |
| 46-47                                                                      | 61 769 | 753   | 12.19        | 23.91     | 61 393 | 81.53     | 1 476 697 | 41.82        |
| 47-48                                                                      | 61 016 | 771   | 12.65        | 23.20     | 60 611 | 78.64     | 1 415 304 | 43.10        |
| 48-49                                                                      | 60 245 | 807   | 13.39        | 22.49     | 59 841 | 74.15     | 1 354 673 | 44.46        |
| 49-50                                                                      | 59 438 | 852   | 14.33        | 21.78     | 59 012 | 69.26     | 1 294 832 | 45.91        |
| 50-51                                                                      | 58 586 | 896   | 15.30        | 21.09     | 58 138 | 64.89     | 1 235 820 | 47.42        |
| 51-52                                                                      | 57 690 | 942   | 16.33        | 20.41     | 57 219 | 60.74     | 1 177 682 | 49.00        |
| 52-53                                                                      | 56 748 | 986   | 17.37        | 19.74     | 56 255 | 57.05     | 1 120 463 | 50.66        |
| 53-54                                                                      | 55 762 | 1 027 | 18.41        | 19.08     | 55 249 | 53.80     | 1 064 208 | 52.41        |
| 54-55                                                                      | 54 735 | 1 068 | 19.51        | 18.43     | 54 201 | 50.75     | 1 008 959 | 54.26        |
| 55-56                                                                      | 53 667 | 1 114 | 20.77        | 17.79     | 53 110 | 47.68     | 951 758   | 56.21        |
| 56-57                                                                      | 52 553 | 1 166 | 22.19        | 17.16     | 51 970 | 44.57     | 901 648   | 58.28        |
| 57-58                                                                      | 51 387 | 1 220 | 23.75        | 16.53     | 50 777 | 41.62     | 849 678   | 60.50        |
| 58-59                                                                      | 50 167 | 1 273 | 25.36        | 15.92     | 49 530 | 38.91     | 798 901   | 62.81        |
| 59-60                                                                      | 48 894 | 1 318 | 26.97        | 15.33     | 48 235 | 36.60     | 749 371   | 65.23        |
| 60-61                                                                      | 47 576 | 1 362 | 28.62        | 14.74     | 46 895 | 34.43     | 701 136   | 67.84        |
| 61-62                                                                      | 46 214 | 1 400 | 30.30        | 14.16     | 45 514 | 32.51     | 654 241   | 70.62        |
| 62-63                                                                      | 44 814 | 1 439 | 32.10        | 13.58     | 44 093 | 30.64     | 608 727   | 73.64        |
| 63-64                                                                      | 43 375 | 1 481 | 34.22        | 13.02     | 42 633 | 28.73     | 564 632   | 76.80        |
| 64-65                                                                      | 41 891 | 1 537 | 36.71        | 12.46     | 41 123 | 26.76     | 521 995   | 80.26        |
| 65-66                                                                      | 40 354 | 1 590 | 39.41        | 11.92     | 39 559 | 24.88     | 480 876   | 83.89        |
| 66-67                                                                      | 38 764 | 1 643 | 42.38        | 11.38     | 37 912 | 23.09     | 441 317   | 87.87        |
| 67-68                                                                      | 37 121 | 1 697 | 45.71        | 10.87     | 36 272 | 21.37     | 403 375   | 92.00        |
| 68-69                                                                      | 35 424 | 1 747 | 49.31        | 10.36     | 34 551 | 19.78     | 367 103   | 96.53        |
| 69-70                                                                      | 33 677 | 1 788 | 53.11        | 9.87      | 32 783 | 18.34     | 332 552   | 101.32       |
| 70-71                                                                      | 31 889 | 1 826 | 57.24        | 9.40      | 30 976 | 16.96     | 299 769   | 106.38       |
| 71-72                                                                      | 30 063 | 1 855 | 61.70        | 8.94      | 29 136 | 15.71     | 268 793   | 111.86       |
| 72-73                                                                      | 28 208 | 1 873 | 66.41        | 8.50      | 27 272 | 14.56     | 239 657   | 117.65       |
| 73-74                                                                      | 26 335 | 1 879 | 71.37        | 8.06      | 25 395 | 13.52     | 212 385   | 124.07       |
| 74-75                                                                      | 24 456 | 1 877 | 76.74        | 7.65      | 23 517 | 12.53     | 186 990   | 130.72       |
| 75-76                                                                      | 22 579 | 1 866 | 82.65        | 7.24      | 21 646 | 11.60     | 163 473   | 138.12       |
| 76-77                                                                      | 20 713 | 1 850 | 89.31        | 6.85      | 19 788 | 10.70     | 141 827   | 145.99       |
| 77-78                                                                      | 18 863 | 1 824 | 96.72        | 6.47      | 17 951 | 9.84      | 122 039   | 154.56       |
| 78-79                                                                      | 17 039 | 1 788 | 104.91       | 6.11      | 16 145 | 9.03      | 104 088   | 163.67       |
| 79-80                                                                      | 15 251 | 1 736 | 113.82       | 5.77      | 14 383 | 8.29      | 87 943    | 173.31       |
| 80-81                                                                      | 13 515 | 1 667 | 123.35       | 5.44      | 12 682 | 7.61      | 73 560    | 183.82       |
| 81-82                                                                      | 11 848 | 1 580 | 133.34       | 5.14      | 11 058 | 7.00      | 60 878    | 194.55       |
| 82-83                                                                      | 10 268 | 1 475 | 143.69       | 4.85      | 9 531  | 6.46      | 49 820    | 206.19       |
| 83-84                                                                      | 8 793  | 1 357 | 154.36       | 4.58      | 8 114  | 5.98      | 40 289    | 218.34       |
| 84-85                                                                      | 7 436  | 1 230 | 165.39       | 4.33      | 6 821  | 5.56      | 32 175    | 230.95       |
| 85-86                                                                      | 6 206  | 1 098 | 176.85       | 4.09      | 5 657  | 5.15      | 25 354    | 244.50       |
| 86-87                                                                      | 5 108  | 965   | 188.88       | 3.86      | 4 626  | 4.79      | 19 697    | 259.07       |
| 87-88                                                                      | 4 143  | 835   | 201.58       | 3.64      | 3 726  | 4.46      | 15 071    | 274.73       |
| 88-89                                                                      | 3 308  | 711   | 215.03       | 3.43      | 2 953  | 4.15      | 11 345    | 291.55       |
| 89-90                                                                      | 2 597  | 595   | 229.24       | 3.23      | 2 299  | 3.86      | 8 392     | 309.60       |
| 90-91                                                                      | 2 002  | 489   | 244.21       | 3.04      | 1 757  | 3.59      | 6 093     | 328.95       |
| 91-92                                                                      | 1 513  | 393   | 259.94       | 2.87      | 1 316  | 3.35      | 4 336     | 348.43       |
| 92-93                                                                      | 1 120  | 310   | 276.43       | 2.70      | 965    | 3.12      | 3 020     | 370.37       |
| 93-94                                                                      | 810    | 238   | 293.75       | 2.54      | 691    | 2.90      | 2 055     | 393.70       |
| 94-95                                                                      | 572    | 178   | 312.00       | 2.38      | 483    | 2.71      | 1 361     | 420.17       |
| 95-96                                                                      | 394    | 131   | 331.31       | 2.24      | 328    | 2.52      | 881       | 446.43       |
| 96-97                                                                      | 263    | 92    | 351.81       | 2.10      | 217    | 2.34      | 553       | 476.19       |
| 97-98                                                                      | 171    | 64    | 373.55       | 1.97      | 139    | 2.18      | 336       | 507.61       |
| 98-99                                                                      | 107    | 43    | 396.58       | 1.84      | 86     | 2.02      | 197       | 543.48       |
| 99-100                                                                     | 61     | 27    | 420.94       | 1.72      | 51     | 1.88      | 111       | 581.40       |
| 100-101                                                                    | 37     | 16    | 446.62       | 1.61      | 29     | 1.74      | 60        | 621.12       |
| 101-102                                                                    | 21     | 10    | 473.65       | 1.50      | 16     | 1.61      | 31        | 666.67       |
| 102-103                                                                    | 11     | 6     | 502.12       | 1.40      | 8      | 1.49      | 15        | 714.29       |
| 103-104                                                                    | 5      | 2     | 532.06       | 1.30      | 4      | 1.38      | 7         | 769.23       |
| 104-105                                                                    | 3      | 2     | 563.53       | 1.21      | 2      | 1.27      | 3         | 826.45       |
| 105-106                                                                    | 1      | 1     | 596.55       | 1.12      | 1      | 1.18      | 1         | 892.86       |

TABLE 58

## LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (4,547,475), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE INTERVAL.                                                      | Of 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                                                    |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages.                         | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                                                       | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                                                  | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |
| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| Months.                                                            |                                            |                               | Monthly rate.                                                                | In years.                                                                        |                                                                                                                                                                                                             | Per month.                            |                                                                    | Annual rate.                                                                                 |
| 0-1                                                                | 100 000                                    | 3 768                         | 37.68                                                                        | 51.89                                                                            | 8 098                                                                                                                                                                                                       | 25.80                                 | 5 189 206                                                          | 19.27                                                                                        |
| 1-2                                                                | 96 232                                     | 1 075                         | 11.17                                                                        | 53.84                                                                            | 7 975                                                                                                                                                                                                       | 89.04                                 | 5 181 108                                                          | 18.57                                                                                        |
| 2-3                                                                | 95 157                                     | 873                           | 9.18                                                                         | 54.36                                                                            | 7 893                                                                                                                                                                                                       | 108.18                                | 5 173 133                                                          | 18.40                                                                                        |
| 3-4                                                                | 94 284                                     | 751                           | 7.97                                                                         | 54.78                                                                            | 7 826                                                                                                                                                                                                       | 125.01                                | 5 165 240                                                          | 18.25                                                                                        |
| 4-5                                                                | 93 533                                     | 665                           | 7.11                                                                         | 55.14                                                                            | 7 767                                                                                                                                                                                                       | 140.16                                | 5 157 411                                                          | 18.14                                                                                        |
| 5-6                                                                | 92 868                                     | 609                           | 6.56                                                                         | 55.45                                                                            | 7 714                                                                                                                                                                                                       | 152.04                                | 5 149 617                                                          | 18.03                                                                                        |
| 6-7                                                                | 92 259                                     | 563                           | 6.10                                                                         | 55.73                                                                            | 7 665                                                                                                                                                                                                       | 163.32                                | 5 141 933                                                          | 17.94                                                                                        |
| 7-8                                                                | 91 696                                     | 528                           | 5.75                                                                         | 55.99                                                                            | 7 619                                                                                                                                                                                                       | 173.16                                | 5 134 268                                                          | 17.86                                                                                        |
| 8-9                                                                | 91 168                                     | 499                           | 5.48                                                                         | 56.23                                                                            | 7 577                                                                                                                                                                                                       | 182.16                                | 5 126 649                                                          | 17.78                                                                                        |
| 9-10                                                               | 90 669                                     | 474                           | 5.23                                                                         | 56.46                                                                            | 7 536                                                                                                                                                                                                       | 190.80                                | 5 119 072                                                          | 17.71                                                                                        |
| 10-11                                                              | 90 195                                     | 450                           | 4.99                                                                         | 56.67                                                                            | 7 497                                                                                                                                                                                                       | 199.92                                | 5 111 536                                                          | 17.65                                                                                        |
| 11-12                                                              | 89 745                                     | 427                           | 4.76                                                                         | 56.87                                                                            | 7 461                                                                                                                                                                                                       | 209.64                                | 5 104 039                                                          | 17.58                                                                                        |
| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.   |                                            |                               |                                                                              |                                                                                  |                                                                                                                                                                                                             |                                       |                                                                    |                                                                                              |
| Years.                                                             |                                            |                               | Annual rate.                                                                 | In years.                                                                        |                                                                                                                                                                                                             | Per year.                             |                                                                    | Annual rate.                                                                                 |
| 0-1                                                                | 100 000                                    | 10 682                        | 106.82                                                                       | 51.89                                                                            | 92 628                                                                                                                                                                                                      | 8.67                                  | 5 189 206                                                          | 19.27                                                                                        |
| 1-2                                                                | 89 318                                     | 2 751                         | 30.79                                                                        | 57.06                                                                            | 87 695                                                                                                                                                                                                      | 31.88                                 | 5 096 578                                                          | 17.53                                                                                        |
| 2-3                                                                | 86 567                                     | 1 188                         | 13.73                                                                        | 57.86                                                                            | 85 938                                                                                                                                                                                                      | 72.34                                 | 5 008 883                                                          | 17.28                                                                                        |
| 3-4                                                                | 85 379                                     | 773                           | 9.05                                                                         | 57.66                                                                            | 84 977                                                                                                                                                                                                      | 109.93                                | 4 922 945                                                          | 17.34                                                                                        |
| 4-5                                                                | 84 606                                     | 513                           | 6.07                                                                         | 57.18                                                                            | 84 339                                                                                                                                                                                                      | 164.40                                | 4 837 968                                                          | 17.49                                                                                        |
| 5-6                                                                | 84 093                                     | 428                           | 5.08                                                                         | 56.53                                                                            | 83 879                                                                                                                                                                                                      | 195.98                                | 4 753 629                                                          | 17.69                                                                                        |
| 6-7                                                                | 83 665                                     | 318                           | 4.17                                                                         | 55.81                                                                            | 83 491                                                                                                                                                                                                      | 239.92                                | 4 669 750                                                          | 17.92                                                                                        |
| 7-8                                                                | 83 317                                     | 281                           | 3.40                                                                         | 55.05                                                                            | 83 175                                                                                                                                                                                                      | 292.87                                | 4 586 259                                                          | 18.17                                                                                        |
| 8-9                                                                | 83 033                                     | 233                           | 2.81                                                                         | 54.23                                                                            | 82 917                                                                                                                                                                                                      | 355.87                                | 4 503 084                                                          | 18.44                                                                                        |
| 9-10                                                               | 82 800                                     | 197                           | 2.38                                                                         | 53.38                                                                            | 82 702                                                                                                                                                                                                      | 419.81                                | 4 420 167                                                          | 18.73                                                                                        |
| 10-11                                                              | 82 603                                     | 175                           | 2.12                                                                         | 52.51                                                                            | 82 516                                                                                                                                                                                                      | 471.52                                | 4 337 465                                                          | 19.04                                                                                        |
| 11-12                                                              | 82 428                                     | 165                           | 2.01                                                                         | 51.62                                                                            | 82 346                                                                                                                                                                                                      | 499.07                                | 4 254 949                                                          | 19.37                                                                                        |
| 12-13                                                              | 82 263                                     | 167                           | 2.03                                                                         | 50.72                                                                            | 82 179                                                                                                                                                                                                      | 492.09                                | 4 172 603                                                          | 19.72                                                                                        |
| 13-14                                                              | 82 096                                     | 177                           | 2.16                                                                         | 49.82                                                                            | 82 007                                                                                                                                                                                                      | 463.32                                | 4 090 424                                                          | 20.07                                                                                        |
| 14-15                                                              | 81 919                                     | 195                           | 2.38                                                                         | 48.93                                                                            | 81 821                                                                                                                                                                                                      | 419.59                                | 4 008 417                                                          | 20.44                                                                                        |
| 15-16                                                              | 81 724                                     | 220                           | 2.69                                                                         | 48.05                                                                            | 81 614                                                                                                                                                                                                      | 370.97                                | 3 926 596                                                          | 20.81                                                                                        |
| 16-17                                                              | 81 504                                     | 244                           | 3.00                                                                         | 47.18                                                                            | 81 382                                                                                                                                                                                                      | 333.53                                | 3 844 982                                                          | 21.20                                                                                        |
| 17-18                                                              | 81 260                                     | 266                           | 3.27                                                                         | 46.32                                                                            | 81 127                                                                                                                                                                                                      | 304.99                                | 3 763 600                                                          | 21.59                                                                                        |
| 18-19                                                              | 80 991                                     | 286                           | 3.53                                                                         | 45.47                                                                            | 80 851                                                                                                                                                                                                      | 282.70                                | 3 682 473                                                          | 21.99                                                                                        |
| 19-20                                                              | 80 708                                     | 306                           | 3.80                                                                         | 44.63                                                                            | 80 555                                                                                                                                                                                                      | 263.25                                | 3 601 622                                                          | 22.41                                                                                        |
| 20-21                                                              | 80 402                                     | 327                           | 4.07                                                                         | 43.79                                                                            | 80 238                                                                                                                                                                                                      | 245.38                                | 3 521 067                                                          | 22.84                                                                                        |
| 21-22                                                              | 80 075                                     | 347                           | 4.33                                                                         | 42.97                                                                            | 79 901                                                                                                                                                                                                      | 230.26                                | 3 440 829                                                          | 23.27                                                                                        |
| 22-23                                                              | 79 728                                     | 365                           | 4.57                                                                         | 42.15                                                                            | 79 545                                                                                                                                                                                                      | 217.93                                | 3 360 928                                                          | 23.72                                                                                        |
| 23-24                                                              | 79 363                                     | 381                           | 4.81                                                                         | 41.35                                                                            | 79 172                                                                                                                                                                                                      | 207.80                                | 3 281 383                                                          | 24.18                                                                                        |
| 24-25                                                              | 78 982                                     | 399                           | 5.05                                                                         | 40.54                                                                            | 78 783                                                                                                                                                                                                      | 197.45                                | 3 202 211                                                          | 24.67                                                                                        |
| 25-26                                                              | 78 583                                     | 416                           | 5.30                                                                         | 39.75                                                                            | 78 375                                                                                                                                                                                                      | 188.40                                | 3 123 428                                                          | 25.16                                                                                        |
| 26-27                                                              | 78 167                                     | 433                           | 5.53                                                                         | 38.96                                                                            | 77 951                                                                                                                                                                                                      | 180.03                                | 3 045 053                                                          | 25.67                                                                                        |
| 27-28                                                              | 77 731                                     | 446                           | 5.75                                                                         | 38.17                                                                            | 77 511                                                                                                                                                                                                      | 173.79                                | 2 967 102                                                          | 26.20                                                                                        |
| 28-29                                                              | 77 288                                     | 460                           | 5.95                                                                         | 37.39                                                                            | 77 058                                                                                                                                                                                                      | 167.52                                | 2 889 591                                                          | 26.75                                                                                        |
| 29-30                                                              | 76 828                                     | 475                           | 6.18                                                                         | 36.61                                                                            | 76 590                                                                                                                                                                                                      | 161.24                                | 2 812 533                                                          | 27.31                                                                                        |
| 30-31                                                              | 76 353                                     | 491                           | 6.43                                                                         | 35.83                                                                            | 76 107                                                                                                                                                                                                      | 155.00                                | 2 735 943                                                          | 27.91                                                                                        |
| 31-32                                                              | 75 862                                     | 508                           | 6.69                                                                         | 35.06                                                                            | 75 608                                                                                                                                                                                                      | 148.83                                | 2 659 836                                                          | 28.52                                                                                        |
| 32-33                                                              | 75 354                                     | 524                           | 6.96                                                                         | 34.29                                                                            | 75 092                                                                                                                                                                                                      | 143.31                                | 2 584 228                                                          | 29.16                                                                                        |
| 33-34                                                              | 74 830                                     | 539                           | 7.20                                                                         | 33.53                                                                            | 74 561                                                                                                                                                                                                      | 138.33                                | 2 509 136                                                          | 29.82                                                                                        |
| 34-35                                                              | 74 291                                     | 553                           | 7.45                                                                         | 32.77                                                                            | 74 014                                                                                                                                                                                                      | 133.84                                | 2 434 575                                                          | 30.52                                                                                        |
| 35-36                                                              | 73 738                                     | 567                           | 7.69                                                                         | 32.01                                                                            | 73 454                                                                                                                                                                                                      | 129.55                                | 2 360 561                                                          | 31.24                                                                                        |
| 36-37                                                              | 73 171                                     | 579                           | 7.92                                                                         | 31.26                                                                            | 72 881                                                                                                                                                                                                      | 125.87                                | 2 287 107                                                          | 31.99                                                                                        |
| 37-38                                                              | 72 592                                     | 592                           | 8.15                                                                         | 30.50                                                                            | 72 296                                                                                                                                                                                                      | 122.12                                | 2 214 226                                                          | 32.79                                                                                        |
| 38-39                                                              | 72 000                                     | 606                           | 8.41                                                                         | 29.75                                                                            | 71 697                                                                                                                                                                                                      | 118.31                                | 2 141 930                                                          | 33.61                                                                                        |
| 39-40                                                              | 71 391                                     | 619                           | 8.68                                                                         | 29.00                                                                            | 71 084                                                                                                                                                                                                      | 114.84                                | 2 070 233                                                          | 34.48                                                                                        |
| 40-41                                                              | 70 775                                     | 635                           | 8.97                                                                         | 28.25                                                                            | 70 457                                                                                                                                                                                                      | 110.96                                | 1 999 149                                                          | 35.40                                                                                        |
| 41-42                                                              | 70 140                                     | 653                           | 9.31                                                                         | 27.50                                                                            | 69 813                                                                                                                                                                                                      | 106.91                                | 1 928 692                                                          | 36.36                                                                                        |
| 42-43                                                              | 69 487                                     | 675                           | 9.71                                                                         | 26.75                                                                            | 69 149                                                                                                                                                                                                      | 102.44                                | 1 858 879                                                          | 37.38                                                                                        |
| 43-44                                                              | 68 812                                     | 699                           | 10.16                                                                        | 26.01                                                                            | 68 463                                                                                                                                                                                                      | 97.94                                 | 1 789 730                                                          | 38.45                                                                                        |
| 44-45                                                              | 68 113                                     | 725                           | 10.65                                                                        | 25.27                                                                            | 67 751                                                                                                                                                                                                      | 93.45                                 | 1 721 267                                                          | 39.57                                                                                        |

## THE STATE ON NEW YORK: 1910.

TABLE 58

REPORTED DEATHS IN 1909 (64,607), IN 1910 (68,014), AND IN 1911 (67,286).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 67 388 | 754   | 11.19        | 24.54     | 67 011 | 88.87     | 1 653 516 | 40.75        |
| 46-47                                                                      | 66 631 | 784   | 11.76        | 23.81     | 66 242 | 84.19     | 1 586 505 | 42.00        |
| 47-48                                                                      | 65 850 | 811   | 12.32        | 23.09     | 65 445 | 80.70     | 1 520 263 | 43.31        |
| 48-49                                                                      | 65 039 | 837   | 12.87        | 22.37     | 64 620 | 77.20     | 1 451 818 | 44.70        |
| 49-50                                                                      | 64 202 | 866   | 13.48        | 21.65     | 63 769 | 73.64     | 1 390 198 | 46.19        |
| 50-51                                                                      | 63 336 | 894   | 14.12        | 20.94     | 62 889 | 70.35     | 1 326 429 | 47.76        |
| 51-52                                                                      | 62 442 | 928   | 14.87        | 20.21     | 61 978 | 66.79     | 1 263 540 | 49.41        |
| 52-53                                                                      | 61 514 | 973   | 15.81        | 19.53     | 61 027 | 62.72     | 1 201 562 | 51.20        |
| 53-54                                                                      | 60 541 | 1 028 | 16.99        | 18.81     | 60 027 | 58.39     | 1 140 535 | 53.08        |
| 54-55                                                                      | 59 513 | 1 090 | 18.32        | 18.16     | 58 968 | 54.10     | 1 080 508 | 55.07        |
| 55-56                                                                      | 58 423 | 1 161 | 19.86        | 17.49     | 57 842 | 49.82     | 1 021 540 | 57.18        |
| 56-57                                                                      | 57 262 | 1 236 | 21.59        | 16.83     | 56 644 | 45.83     | 963 698   | 59.42        |
| 57-58                                                                      | 56 026 | 1 310 | 23.38        | 16.19     | 55 371 | 42.27     | 907 051   | 61.77        |
| 58-59                                                                      | 54 716 | 1 377 | 25.17        | 15.57     | 54 028 | 39.24     | 851 683   | 64.23        |
| 59-60                                                                      | 53 339 | 1 444 | 27.08        | 14.95     | 52 617 | 36.44     | 797 655   | 66.89        |
| 60-61                                                                      | 51 895 | 1 510 | 29.09        | 14.36     | 51 140 | 33.87     | 745 038   | 69.64        |
| 61-62                                                                      | 50 385 | 1 573 | 31.21        | 13.77     | 49 599 | 31.53     | 693 898   | 72.62        |
| 62-63                                                                      | 48 812 | 1 637 | 33.54        | 13.20     | 47 994 | 29.32     | 644 299   | 75.76        |
| 63-64                                                                      | 47 175 | 1 703 | 36.10        | 12.64     | 46 324 | 27.20     | 596 305   | 79.11        |
| 64-65                                                                      | 45 472 | 1 763 | 38.77        | 12.09     | 44 591 | 25.29     | 549 981   | 82.71        |
| 65-66                                                                      | 43 709 | 1 816 | 41.54        | 11.56     | 42 801 | 23.57     | 505 390   | 86.51        |
| 66-67                                                                      | 41 893 | 1 869 | 44.62        | 11.01     | 40 959 | 21.91     | 462 589   | 90.58        |
| 67-68                                                                      | 40 024 | 1 927 | 48.15        | 10.53     | 39 061 | 20.27     | 421 630   | 94.97        |
| 68-69                                                                      | 38 097 | 1 986 | 52.13        | 10.01     | 37 104 | 18.68     | 382 569   | 99.60        |
| 69-70                                                                      | 36 111 | 2 039 | 56.46        | 9.57      | 35 091 | 17.21     | 345 465   | 104.49       |
| 70-71                                                                      | 34 072 | 2 087 | 61.26        | 9.11      | 33 029 | 15.83     | 310 374   | 109.77       |
| 71-72                                                                      | 31 985 | 2 117 | 66.20        | 8.67      | 30 926 | 14.61     | 277 345   | 115.34       |
| 72-73                                                                      | 29 868 | 2 119 | 70.91        | 8.25      | 28 808 | 13.60     | 246 419   | 121.21       |
| 73-74                                                                      | 27 719 | 2 097 | 75.68        | 7.84      | 26 700 | 12.73     | 217 611   | 127.55       |
| 74-75                                                                      | 25 552 | 2 068 | 80.60        | 7.44      | 24 618 | 11.90     | 190 911   | 134.41       |
| 75-76                                                                      | 23 381 | 2 025 | 85.88        | 7.05      | 22 571 | 11.15     | 166 293   | 141.84       |
| 76-77                                                                      | 21 259 | 1 980 | 91.84        | 6.67      | 20 569 | 10.39     | 143 722   | 149.93       |
| 77-78                                                                      | 19 159 | 1 939 | 99.04        | 6.29      | 18 609 | 9.60      | 123 153   | 158.98       |
| 78-79                                                                      | 17 040 | 1 900 | 107.71       | 5.93      | 16 690 | 8.78      | 104 544   | 168.63       |
| 79-80                                                                      | 15 740 | 1 852 | 117.68       | 5.58      | 14 814 | 8.00      | 87 854    | 179.21       |
| 80-81                                                                      | 13 888 | 1 804 | 129.85       | 5.26      | 12 986 | 7.20      | 73 040    | 190.11       |
| 81-82                                                                      | 12 084 | 1 724 | 142.68       | 4.97      | 11 222 | 6.51      | 60 054    | 201.21       |
| 82-83                                                                      | 10 360 | 1 593 | 153.77       | 4.71      | 9 564  | 6.00      | 48 832    | 212.31       |
| 83-84                                                                      | 8 767  | 1 426 | 162.71       | 4.48      | 8 054  | 5.65      | 39 268    | 223.21       |
| 84-85                                                                      | 7 311  | 1 268 | 172.63       | 4.25      | 6 707  | 5.29      | 31 214    | 235.29       |
| 85-86                                                                      | 6 073  | 1 111 | 182.92       | 4.03      | 5 518  | 4.97      | 24 507    | 248.14       |
| 86-87                                                                      | 4 962  | 960   | 193.55       | 3.83      | 4 482  | 4.67      | 18 989    | 261.10       |
| 87-88                                                                      | 4 002  | 819   | 201.58       | 3.62      | 3 593  | 4.39      | 14 507    | 276.24       |
| 88-89                                                                      | 3 183  | 688   | 216.32       | 3.43      | 2 839  | 4.12      | 10 914    | 291.55       |
| 89-90                                                                      | 2 495  | 572   | 229.20       | 3.24      | 2 209  | 3.86      | 8 075     | 308.64       |
| 90-91                                                                      | 1 923  | 468   | 243.47       | 3.05      | 1 689  | 3.61      | 5 866     | 327.87       |
| 91-92                                                                      | 1 455  | 377   | 259.15       | 2.87      | 1 266  | 3.36      | 4 177     | 348.43       |
| 92-93                                                                      | 1 078  | 298   | 276.08       | 2.70      | 929    | 3.12      | 2 911     | 370.37       |
| 93-94                                                                      | 780    | 229   | 291.03       | 2.54      | 665    | 2.90      | 1 982     | 393.70       |
| 94-95                                                                      | 551    | 172   | 312.63       | 2.39      | 465    | 2.70      | 1 317     | 418.41       |
| 95-96                                                                      | 379    | 126   | 331.79       | 2.25      | 316    | 2.51      | 852       | 444.44       |
| 96-97                                                                      | 253    | 89    | 351.18       | 2.12      | 209    | 2.35      | 536       | 471.70       |
| 97-98                                                                      | 164    | 61    | 371.25       | 1.99      | 134    | 2.19      | 327       | 502.51       |
| 98-99                                                                      | 103    | 40    | 392.28       | 1.87      | 83     | 2.05      | 193       | 534.76       |
| 99-100                                                                     | 63     | 26    | 414.66       | 1.75      | 50     | 1.91      | 110       | 571.43       |
| 100-101                                                                    | 37     | 16    | 438.59       | 1.64      | 29     | 1.78      | 60        | 609.76       |
| 101-102                                                                    | 21     | 10    | 464.42       | 1.53      | 16     | 1.65      | 31        | 653.59       |
| 102-103                                                                    | 11     | 6     | 492.11       | 1.43      | 8      | 1.53      | 15        | 699.30       |
| 103-104                                                                    | 6      | 3     | 521.55       | 1.33      | 4      | 1.42      | 7         | 751.88       |
| 104-105                                                                    | 3      | 2     | 552.48       | 1.24      | 2      | 1.31      | 3         | 806.45       |
| 105-106                                                                    | 1      | 1     | 584.73       | 1.15      | 1      | 1.21      | 1         | 869.57       |

TABLE 59

## LIFE TABLE FOR MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (280,923), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE INTERVAL.                              | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                   | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                   | $I_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                       | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 15 736 | 157.36       | 41.64     | 88 670 | 5.63      | 4 163 508 | 24.02        |
| 1-2                                                              | 81 264  | 4 139  | 49.12        | 48.36     | 81 822 | 19.77     | 4 074 838 | 20.68        |
| 2-3                                                              | 80 125  | 1 848  | 23.06        | 49.83     | 79 146 | 42.83     | 3 993 016 | 20.07        |
| 3-4                                                              | 78 277  | 1 281  | 16.41        | 50.00     | 77 609 | 60.44     | 3 913 870 | 20.00        |
| 4-5                                                              | 76 993  | 995    | 12.92        | 49.83     | 76 476 | 76.86     | 3 836 261 | 20.07        |
| 5-6                                                              | 75 998  | 759    | 9.99         | 49.47     | 75 619 | 99.63     | 3 759 785 | 20.21        |
| 6-7                                                              | 75 239  | 571    | 7.59         | 48.97     | 74 954 | 131.27    | 3 684 166 | 20.42        |
| 7-8                                                              | 74 668  | 425    | 5.69         | 48.34     | 74 456 | 175.19    | 3 609 212 | 20.69        |
| 8-9                                                              | 74 243  | 317    | 4.27         | 47.61     | 74 085 | 233.71    | 3 534 756 | 21.00        |
| 9-10                                                             | 73 926  | 241    | 3.27         | 46.81     | 73 805 | 306.24    | 3 460 671 | 21.36        |
| 10-11                                                            | 73 685  | 197    | 2.67         | 45.96     | 73 586 | 373.53    | 3 386 866 | 21.76        |
| 11-12                                                            | 73 466  | 179    | 2.43         | 45.09     | 73 398 | 410.04    | 3 313 280 | 22.18        |
| 12-13                                                            | 73 309  | 165    | 2.25         | 44.19     | 73 217 | 395.77    | 3 239 882 | 22.63        |
| 13-14                                                            | 73 124  | 212    | 2.90         | 43.31     | 73 018 | 314.42    | 3 166 665 | 23.09        |
| 14-15                                                            | 72 912  | 258    | 3.53         | 42.43     | 72 783 | 282.10    | 3 093 647 | 23.57        |
| 15-16                                                            | 72 654  | 318    | 4.38         | 41.58     | 72 495 | 227.97    | 3 020 864 | 24.05        |
| 16-17                                                            | 72 336  | 391    | 5.41         | 40.76     | 72 141 | 184.50    | 2 948 369 | 24.53        |
| 17-18                                                            | 71 915  | 455    | 6.32         | 39.98     | 71 718 | 157.62    | 2 876 228 | 25.01        |
| 18-19                                                            | 71 490  | 490    | 6.86         | 39.23     | 71 245 | 145.40    | 2 804 510 | 25.49        |
| 19-20                                                            | 71 000  | 508    | 7.16         | 38.50     | 70 746 | 139.26    | 2 733 265 | 25.97        |
| 20-21                                                            | 70 492  | 528    | 7.49         | 37.77     | 70 228 | 133.01    | 2 662 519 | 26.48        |
| 21-22                                                            | 69 964  | 545    | 7.79         | 37.05     | 69 691 | 127.57    | 2 592 291 | 26.99        |
| 22-23                                                            | 69 419  | 566    | 8.14         | 36.34     | 69 136 | 122.15    | 2 522 600 | 27.52        |
| 23-24                                                            | 68 853  | 592    | 8.60         | 35.63     | 68 557 | 115.81    | 2 453 464 | 28.07        |
| 24-25                                                            | 68 261  | 621    | 9.10         | 34.94     | 67 950 | 109.42    | 2 384 907 | 28.62        |
| 25-26                                                            | 67 640  | 644    | 9.52         | 34.25     | 67 318 | 104.53    | 2 316 957 | 29.20        |
| 26-27                                                            | 66 996  | 665    | 9.92         | 33.59     | 66 664 | 100.25    | 2 249 639 | 29.78        |
| 27-28                                                            | 66 331  | 678    | 10.23        | 32.91     | 65 992 | 97.33     | 2 182 975 | 30.39        |
| 28-29                                                            | 65 653  | 686    | 10.44        | 32.25     | 65 310 | 95.20     | 2 116 983 | 31.01        |
| 29-30                                                            | 64 967  | 687    | 10.59        | 31.58     | 64 624 | 91.07     | 2 051 673 | 31.67        |
| 30-31                                                            | 64 280  | 692    | 10.76        | 30.91     | 63 934 | 92.39     | 1 987 049 | 32.35        |
| 31-32                                                            | 63 588  | 696    | 10.94        | 30.24     | 63 240 | 90.86     | 1 923 115 | 33.07        |
| 32-33                                                            | 62 892  | 703    | 11.18        | 29.57     | 62 540 | 88.96     | 1 859 875 | 33.82        |
| 33-34                                                            | 62 189  | 716    | 11.51        | 28.90     | 61 831 | 86.36     | 1 797 335 | 34.60        |
| 34-35                                                            | 61 473  | 732    | 11.90        | 28.23     | 61 107 | 83.48     | 1 735 504 | 35.42        |
| 35-36                                                            | 60 741  | 747    | 12.29        | 27.57     | 60 367 | 80.81     | 1 674 397 | 36.27        |
| 36-37                                                            | 59 994  | 762    | 12.70        | 26.90     | 59 613 | 78.23     | 1 614 030 | 37.17        |
| 37-38                                                            | 59 232  | 777    | 13.11        | 26.24     | 58 844 | 75.73     | 1 554 417 | 38.11        |
| 38-39                                                            | 58 455  | 790    | 13.52        | 25.59     | 58 060 | 73.49     | 1 495 573 | 39.08        |
| 39-40                                                            | 57 665  | 804    | 13.95        | 24.93     | 57 263 | 71.22     | 1 437 513 | 40.11        |
| 40-41                                                            | 56 861  | 821    | 14.43        | 24.27     | 56 451 | 68.76     | 1 380 250 | 41.20        |
| 41-42                                                            | 56 040  | 840    | 14.99        | 23.62     | 55 620 | 66.21     | 1 323 799 | 42.31        |
| 42-43                                                            | 55 200  | 859    | 15.56        | 22.97     | 54 771 | 63.76     | 1 268 179 | 43.54        |
| 43-44                                                            | 54 341  | 874    | 16.09        | 22.33     | 53 904 | 61.68     | 1 213 408 | 44.78        |
| 44-45                                                            | 53 467  | 889    | 16.62        | 21.69     | 53 023 | 59.64     | 1 159 504 | 46.10        |

## THE CITY OF BOSTON: 1901.

TABLE 59

REPORTED DEATHS IN 1900 (5,840), IN 1901 (5,901), AND IN 1902 (5,661).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE<br>INTERVAL. | OF 100,000 MALES BORN<br>ALIVE:                     |                                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND. | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                           | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                                                |                                                            |                                                                               |
|------------------|-----------------------------------------------------|--------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------|
|                  |                                                     |                                                  |                                          |                                                                                               | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                                        | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS. | DEATH RATE<br>PER THOUSAND.                                                   |
|                  | Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval.         | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval.                                                                                                               | Including only<br>those in current<br>month or year<br>of age. | Population<br>per death in<br>age interval.                | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                               | $d_x$                                            | $1000q_x$                                | $e_x$                                                                                         | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                                      | $T_x$                                                      | $1000l_x/T_x$                                                                 |
| 1                | 2                                                   | 3                                                | 4                                        | 5                                                                                             | 6                                                                                                                                                                                                          | 7                                                              | 8                                                          | 9                                                                             |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 52 578 | 906   | 17.23        | 21.91     | 52 125 | 57.53     | 1 106 481 | 47.53        |
| 46-47                                                                      | 51 672 | 925   | 17.90        | 20.40     | 51 210 | 55.36     | 1 051 356 | 49.02        |
| 47-48                                                                      | 50 747 | 950   | 18.72        | 19.77     | 50 272 | 52.92     | 1 003 146 | 50.58        |
| 48-49                                                                      | 49 797 | 980   | 19.68        | 19.14     | 49 307 | 50.31     | 952 874   | 52.25        |
| 49-50                                                                      | 48 817 | 1 012 | 20.74        | 18.51     | 48 311 | 47.74     | 903 567   | 54.02        |
| 50-51                                                                      | 47 805 | 1 042 | 21.80        | 17.89     | 47 284 | 45.38     | 855 256   | 55.90        |
| 51-52                                                                      | 46 763 | 1 068 | 22.84        | 17.28     | 46 229 | 43.29     | 807 972   | 57.87        |
| 52-53                                                                      | 45 695 | 1 098 | 24.04        | 16.67     | 45 146 | 41.12     | 761 743   | 59.99        |
| 53-54                                                                      | 44 597 | 1 143 | 25.63        | 16.07     | 44 025 | 38.52     | 716 597   | 62.23        |
| 54-55                                                                      | 43 454 | 1 203 | 27.68        | 15.49     | 42 852 | 35.62     | 672 572   | 64.60        |
| 55-56                                                                      | 42 251 | 1 269 | 30.04        | 14.90     | 41 616 | 32.79     | 629 720   | 67.11        |
| 56-57                                                                      | 40 982 | 1 350 | 32.94        | 14.35     | 40 307 | 29.86     | 588 104   | 69.69        |
| 57-58                                                                      | 39 632 | 1 422 | 35.88        | 13.82     | 38 921 | 27.37     | 547 797   | 72.36        |
| 58-59                                                                      | 38 210 | 1 458 | 38.16        | 13.32     | 37 481 | 25.71     | 508 876   | 75.08        |
| 59-60                                                                      | 36 752 | 1 463 | 39.80        | 12.83     | 36 020 | 24.62     | 471 395   | 77.94        |
| 60-61                                                                      | 35 289 | 1 465 | 41.52        | 12.34     | 34 556 | 23.59     | 435 375   | 81.04        |
| 61-62                                                                      | 33 821 | 1 455 | 43.01        | 11.85     | 33 097 | 22.75     | 400 819   | 84.39        |
| 62-63                                                                      | 32 369 | 1 461 | 45.14        | 11.36     | 31 639 | 21.66     | 367 722   | 88.03        |
| 63-64                                                                      | 30 908 | 1 505 | 48.69        | 10.87     | 30 156 | 20.04     | 336 933   | 92.00        |
| 64-65                                                                      | 29 403 | 1 578 | 53.65        | 10.40     | 28 614 | 18.13     | 305 927   | 96.15        |
| 65-66                                                                      | 27 825 | 1 644 | 59.12        | 9.97      | 27 003 | 16.43     | 277 313   | 100.30       |
| 66-67                                                                      | 26 181 | 1 677 | 64.05        | 9.56      | 25 342 | 15.11     | 250 310   | 104.60       |
| 67-68                                                                      | 24 504 | 1 665 | 67.96        | 9.18      | 23 671 | 14.22     | 224 968   | 108.93       |
| 68-69                                                                      | 22 839 | 1 628 | 71.28        | 8.81      | 22 025 | 13.53     | 201 297   | 113.51       |
| 69-70                                                                      | 21 211 | 1 573 | 74.12        | 8.45      | 20 425 | 12.98     | 179 272   | 118.34       |
| 70-71                                                                      | 19 638 | 1 507 | 76.79        | 8.09      | 18 884 | 12.53     | 158 847   | 123.61       |
| 71-72                                                                      | 18 131 | 1 447 | 79.76        | 7.72      | 17 407 | 12.03     | 139 963   | 129.53       |
| 72-73                                                                      | 16 684 | 1 393 | 83.52        | 7.35      | 15 983 | 11.48     | 122 556   | 136.05       |
| 73-74                                                                      | 15 291 | 1 353 | 88.45        | 6.97      | 14 615 | 10.80     | 106 568   | 143.47       |
| 74-75                                                                      | 13 938 | 1 320 | 94.74        | 6.60      | 13 278 | 10.06     | 91 933    | 151.52       |
| 75-76                                                                      | 12 618 | 1 292 | 102.36       | 6.24      | 11 972 | 9.27      | 78 675    | 160.26       |
| 76-77                                                                      | 11 326 | 1 258 | 111.12       | 5.89      | 10 697 | 8.50      | 66 703    | 169.78       |
| 77-78                                                                      | 10 068 | 1 216 | 120.74       | 5.56      | 9 460  | 7.78      | 56 006    | 179.86       |
| 78-79                                                                      | 8 852  | 1 159 | 130.90       | 5.26      | 8 273  | 7.14      | 46 546    | 190.11       |
| 79-80                                                                      | 7 693  | 1 087 | 141.32       | 4.98      | 7 150  | 6.58      | 38 273    | 200.80       |
| 80-81                                                                      | 6 606  | 1 002 | 151.78       | 4.71      | 6 105  | 6.09      | 31 123    | 212.31       |
| 81-82                                                                      | 5 604  | 909   | 162.22       | 4.46      | 5 149  | 5.66      | 25 018    | 224.22       |
| 82-83                                                                      | 4 695  | 811   | 172.70       | 4.23      | 4 289  | 5.29      | 19 869    | 236.41       |
| 83-84                                                                      | 3 884  | 712   | 183.35       | 4.01      | 3 528  | 4.93      | 15 580    | 249.38       |
| 84-85                                                                      | 3 172  | 617   | 194.42       | 3.80      | 2 863  | 4.64      | 12 052    | 263.16       |
| 85-86                                                                      | 2 555  | 527   | 206.12       | 3.60      | 2 292  | 4.35      | 9 189     | 277.78       |
| 86-87                                                                      | 2 028  | 443   | 218.65       | 3.40      | 1 807  | 4.07      | 6 897     | 294.12       |
| 87-88                                                                      | 1 585  | 368   | 232.11       | 3.21      | 1 401  | 3.81      | 5 090     | 311.53       |
| 88-89                                                                      | 1 217  | 300   | 246.53       | 3.03      | 1 067  | 3.56      | 3 689     | 330.03       |
| 89-90                                                                      | 917    | 240   | 261.88       | 2.86      | 797    | 3.32      | 2 622     | 349.65       |
| 90-91                                                                      | 677    | 188   | 278.09       | 2.70      | 583    | 3.10      | 1 825     | 370.37       |
| 91-92                                                                      | 489    | 145   | 295.02       | 2.54      | 417    | 2.89      | 1 242     | 393.70       |
| 92-93                                                                      | 344    | 107   | 312.62       | 2.39      | 291    | 2.70      | 825       | 418.41       |
| 93-94                                                                      | 237    | 79    | 330.90       | 2.26      | 198    | 2.52      | 534       | 442.48       |
| 94-95                                                                      | 158    | 55    | 349.99       | 2.12      | 131    | 2.36      | 336       | 471.70       |
| 95-96                                                                      | 103    | 38    | 370.00       | 2.00      | 84     | 2.20      | 205       | 500.00       |
| 96-97                                                                      | 65     | 25    | 391.06       | 1.88      | 52     | 2.06      | 121       | 531.91       |
| 97-98                                                                      | 40     | 17    | 413.24       | 1.77      | 31     | 1.92      | 69        | 561.97       |
| 98-99                                                                      | 23     | 10    | 436.60       | 1.66      | 18     | 1.79      | 38        | 602.41       |
| 99-100                                                                     | 13     | 6     | 461.11       | 1.55      | 10     | 1.67      | 20        | 645.16       |
| 100-101                                                                    | 7      | 3     | 486.77       | 1.46      | 5      | 1.55      | 10        | 684.93       |
| 101-102                                                                    | 4      | 2     | 513.62       | 1.36      | 3      | 1.45      | 5         | 735.29       |
| 102-103                                                                    | 2      | 1     | 541.71       | 1.28      | 1      | 1.35      | 2         | 781.25       |
| 103-104                                                                    | 1      | 1     | 571.04       | 1.19      | 1      | 1.25      | 1         | 840.34       |

TABLE 60

TABLE LIFE FOR MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (330,841), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE<br>INTERVAL.                                    | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 13 527 | 135.27       | 46.05     | 90 260 | 6.67      | 4 604 944 | 21.72        |
| 1-2                                                              | 86 473  | 2 806  | 32.44        | 52.21     | 81 817 | 30.23     | 4 514 684 | 19.15        |
| 2-3                                                              | 83 667  | 1 198  | 14.32        | 52.95     | 83 032 | 69.31     | 4 429 867 | 18.89        |
| 3-4                                                              | 82 469  | 851    | 10.32        | 52.71     | 82 026 | 96.39     | 4 346 835 | 18.97        |
| 4-5                                                              | 81 618  | 668    | 8.19         | 52.25     | 81 270 | 121.66    | 4 264 809 | 19.14        |
| 5-6                                                              | 80 950  | 521    | 6.43         | 51.68     | 80 689 | 154.87    | 4 183 539 | 19.35        |
| 6-7                                                              | 80 429  | 403    | 5.01         | 51.01     | 80 228 | 199.08    | 4 102 850 | 19.60        |
| 7-8                                                              | 80 026  | 313    | 3.92         | 50.27     | 79 869 | 255.17    | 4 022 622 | 19.89        |
| 8-9                                                              | 79 713  | 219    | 3.13         | 49.46     | 79 588 | 319.63    | 3 942 753 | 20.22        |
| 9-10                                                             | 79 464  | 207    | 2.60         | 48.62     | 79 360 | 383.38    | 3 863 165 | 20.57        |
| 10-11                                                            | 79 257  | 184    | 2.32         | 47.74     | 79 165 | 430.24    | 3 783 805 | 20.95        |
| 11-12                                                            | 79 073  | 175    | 2.22         | 46.85     | 78 985 | 451.34    | 3 704 610 | 21.34        |
| 12-13                                                            | 78 898  | 180    | 2.27         | 45.95     | 78 808 | 437.82    | 3 625 655 | 21.76        |
| 13-14                                                            | 78 718  | 193    | 2.46         | 45.06     | 78 622 | 407.37    | 3 546 847 | 22.19        |
| 14-15                                                            | 78 525  | 217    | 2.76         | 44.17     | 78 417 | 361.37    | 3 468 225 | 22.64        |
| 15-16                                                            | 78 308  | 249    | 3.18         | 43.29     | 78 181 | 313.99    | 3 389 808 | 23.10        |
| 16-17                                                            | 78 059  | 292    | 3.75         | 42.42     | 77 913 | 266.83    | 3 311 624 | 23.57        |
| 17-18                                                            | 77 767  | 328    | 4.21         | 41.58     | 77 603 | 236.59    | 3 233 711 | 24.05        |
| 18-19                                                            | 77 439  | 312    | 4.13         | 40.76     | 77 268 | 225.93    | 3 156 108 | 24.53        |
| 19-20                                                            | 77 097  | 317    | 4.50         | 39.93     | 76 923 | 221.68    | 3 078 810 | 25.04        |
| 20-21                                                            | 76 750  | 355    | 4.63         | 39.11     | 76 573 | 215.70    | 3 001 917 | 25.57        |
| 21-22                                                            | 76 395  | 361    | 4.76         | 38.29     | 76 213 | 209.38    | 2 925 344 | 26.12        |
| 22-23                                                            | 76 031  | 378    | 4.97         | 37.47     | 75 842 | 200.61    | 2 849 131 | 26.69        |
| 23-24                                                            | 75 653  | 399    | 5.28         | 36.66     | 75 451 | 189.11    | 2 773 289 | 27.28        |
| 24-25                                                            | 75 254  | 427    | 5.67         | 35.85     | 75 041 | 175.74    | 2 697 835 | 27.89        |
| 25-26                                                            | 74 827  | 453    | 6.06         | 35.05     | 74 600 | 164.68    | 2 622 794 | 28.53        |
| 26-27                                                            | 74 374  | 480    | 6.45         | 34.26     | 74 131 | 154.45    | 2 548 191 | 29.19        |
| 27-28                                                            | 73 894  | 508    | 6.88         | 33.48     | 73 640 | 144.96    | 2 474 060 | 29.87        |
| 28-29                                                            | 73 386  | 510    | 7.35         | 32.71     | 73 116 | 135.40    | 2 400 420 | 30.57        |
| 29-30                                                            | 72 846  | 573    | 7.88         | 31.95     | 72 560 | 126.63    | 2 327 304 | 31.30        |
| 30-31                                                            | 72 273  | 611    | 8.45         | 31.20     | 71 967 | 117.79    | 2 254 744 | 32.05        |
| 31-32                                                            | 71 662  | 652    | 9.09         | 30.46     | 71 336 | 109.41    | 2 182 777 | 32.83        |
| 32-33                                                            | 71 010  | 690    | 9.72         | 29.73     | 70 665 | 102.41    | 2 111 441 | 33.64        |
| 33-34                                                            | 70 320  | 719    | 10.23        | 29.02     | 69 961 | 97.30     | 2 040 776 | 34.46        |
| 34-35                                                            | 69 601  | 742    | 10.66        | 28.32     | 69 230 | 93.30     | 1 970 815 | 35.31        |
| 35-36                                                            | 68 859  | 763    | 11.08        | 27.62     | 68 478 | 89.75     | 1 901 585 | 36.21        |
| 36-37                                                            | 68 096  | 781    | 11.48        | 26.92     | 67 705 | 86.69     | 1 833 107 | 37.15        |
| 37-38                                                            | 67 315  | 805    | 11.95        | 26.23     | 66 913 | 83.12     | 1 765 402 | 38.12        |
| 38-39                                                            | 66 510  | 837    | 12.59        | 25.51     | 66 092 | 78.96     | 1 698 489 | 39.15        |
| 39-40                                                            | 65 673  | 878    | 13.37        | 24.86     | 65 234 | 74.30     | 1 632 397 | 40.23        |
| 40-41                                                            | 64 795  | 920    | 14.20        | 24.19     | 64 335 | 69.93     | 1 567 163 | 41.34        |
| 41-42                                                            | 63 875  | 968    | 15.15        | 23.53     | 63 391 | 65.49     | 1 502 828 | 42.50        |
| 42-43                                                            | 62 907  | 1 004  | 15.96        | 22.88     | 62 405 | 62.16     | 1 439 437 | 43.71        |
| 43-44                                                            | 61 903  | 1 019  | 16.46        | 22.24     | 61 393 | 60.25     | 1 377 032 | 44.96        |
| 44-45                                                            | 60 884  | 1 020  | 16.75        | 21.61     | 60 374 | 59.19     | 1 315 639 | 46.27        |



## THE CITY OF BOSTON: 1910.

## TABLE 60

REPORTED DEATHS IN 1909 (5,797), IN 1910 (6,049), AND IN 1911 (6,234).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE<br>INTERVAL.                                    | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 59 864 | 1 023 | 17.09        | 20.97     | 59 353 | 58.02     | 1 255 265 | 47.69        |
| 46-47                                                                      | 58 811 | 1 021 | 17.36        | 20.32     | 58 330 | 57.13     | 1 195 912 | 49.21        |
| 47-48                                                                      | 57 820 | 1 041 | 18.00        | 19.67     | 57 299 | 55.04     | 1 137 582 | 50.84        |
| 48-49                                                                      | 56 779 | 1 096 | 19.31        | 19.03     | 56 231 | 51.31     | 1 080 233 | 52.55        |
| 49-50                                                                      | 55 683 | 1 175 | 21.09        | 18.39     | 55 095 | 46.89     | 1 024 052 | 54.38        |
| 50-51                                                                      | 54 508 | 1 251 | 22.96        | 17.78     | 53 882 | 43.07     | 968 957   | 56.24        |
| 51-52                                                                      | 53 257 | 1 337 | 25.09        | 17.18     | 52 588 | 39.33     | 915 075   | 58.21        |
| 52-53                                                                      | 51 920 | 1 396 | 26.90        | 16.61     | 51 222 | 36.69     | 862 487   | 60.20        |
| 53-54                                                                      | 50 524 | 1 416 | 28.02        | 16.06     | 49 816 | 35.18     | 811 265   | 62.27        |
| 54-55                                                                      | 49 108 | 1 410 | 28.71        | 15.51     | 48 403 | 34.33     | 761 449   | 64.47        |
| 55-56                                                                      | 47 698 | 1 411 | 29.58        | 14.95     | 46 993 | 33.30     | 713 046   | 66.89        |
| 56-57                                                                      | 46 287 | 1 406 | 30.39        | 14.39     | 45 584 | 32.42     | 666 053   | 69.19        |
| 57-58                                                                      | 44 881 | 1 439 | 32.05        | 13.82     | 44 162 | 30.69     | 620 469   | 72.36        |
| 58-59                                                                      | 43 442 | 1 529 | 35.20        | 13.27     | 42 678 | 27.91     | 576 307   | 75.36        |
| 59-60                                                                      | 41 913 | 1 617 | 39.31        | 12.73     | 41 089 | 24.95     | 533 629   | 78.55        |
| 60-61                                                                      | 40 266 | 1 750 | 43.45        | 12.23     | 39 391 | 22.51     | 492 540   | 81.77        |
| 61-62                                                                      | 38 516 | 1 845 | 47.91        | 11.77     | 37 594 | 20.38     | 453 119   | 84.96        |
| 62-63                                                                      | 36 671 | 1 894 | 51.64        | 11.33     | 35 724 | 18.86     | 415 555   | 88.26        |
| 63-64                                                                      | 34 777 | 1 880 | 54.06        | 10.92     | 33 837 | 18.00     | 379 831   | 91.58        |
| 64-65                                                                      | 32 897 | 1 829 | 55.61        | 10.52     | 31 982 | 17.49     | 345 994   | 95.06        |
| 65-66                                                                      | 31 068 | 1 778 | 57.22        | 10.11     | 30 179 | 16.97     | 314 012   | 98.91        |
| 66-67                                                                      | 29 290 | 1 713 | 58.49        | 9.69      | 28 433 | 16.60     | 283 833   | 103.20       |
| 67-68                                                                      | 27 577 | 1 677 | 60.80        | 9.26      | 26 739 | 15.94     | 255 400   | 107.99       |
| 68-69                                                                      | 25 900 | 1 693 | 65.36        | 8.83      | 25 054 | 14.80     | 228 661   | 113.25       |
| 69-70                                                                      | 24 207 | 1 740 | 71.91        | 8.41      | 23 337 | 13.41     | 203 607   | 118.91       |
| 70-71                                                                      | 22 467 | 1 777 | 79.09        | 8.02      | 21 578 | 12.14     | 180 270   | 124.69       |
| 71-72                                                                      | 20 690 | 1 777 | 85.89        | 7.67      | 19 801 | 11.14     | 158 692   | 130.38       |
| 72-73                                                                      | 18 913 | 1 732 | 91.59        | 7.34      | 18 017 | 10.42     | 138 691   | 136.24       |
| 73-74                                                                      | 17 181 | 1 662 | 96.70        | 7.03      | 16 350 | 9.84      | 120 844   | 142.25       |
| 74-75                                                                      | 15 519 | 1 571 | 101.24       | 6.73      | 14 734 | 9.38      | 104 494   | 148.59       |
| 75-76                                                                      | 13 948 | 1 472 | 105.51       | 6.44      | 13 212 | 8.98      | 89 760    | 155.28       |
| 76-77                                                                      | 12 476 | 1 372 | 110.00       | 6.14      | 11 790 | 8.59      | 76 548    | 162.87       |
| 77-78                                                                      | 11 104 | 1 279 | 115.22       | 5.83      | 10 461 | 8.18      | 64 758    | 171.53       |
| 78-79                                                                      | 9 825  | 1 195 | 121.58       | 5.53      | 9 227  | 7.72      | 54 294    | 180.83       |
| 79-80                                                                      | 8 630  | 1 116 | 129.27       | 5.22      | 8 072  | 7.23      | 45 067    | 191.67       |
| 80-81                                                                      | 7 514  | 1 039 | 138.28       | 4.92      | 6 995  | 6.73      | 36 995    | 203.25       |
| 81-82                                                                      | 6 475  | 961   | 148.42       | 4.63      | 5 995  | 6.24      | 30 000    | 215.98       |
| 82-83                                                                      | 5 514  | 879   | 159.51       | 4.35      | 5 075  | 5.77      | 24 005    | 229.89       |
| 83-84                                                                      | 4 635  | 795   | 171.54       | 4.08      | 4 237  | 5.33      | 18 930    | 245.10       |
| 84-85                                                                      | 3 840  | 709   | 184.62       | 3.83      | 3 485  | 4.92      | 14 693    | 261.10       |
| 85-86                                                                      | 3 131  | 623   | 198.96       | 3.58      | 2 819  | 4.53      | 11 208    | 279.33       |
| 86-87                                                                      | 2 508  | 539   | 214.75       | 3.34      | 2 239  | 4.16      | 8 389     | 299.10       |
| 87-88                                                                      | 1 969  | 457   | 232.03       | 3.12      | 1 741  | 3.81      | 6 150     | 320.51       |
| 88-89                                                                      | 1 512  | 379   | 250.64       | 2.91      | 1 323  | 3.49      | 4 409     | 343.64       |
| 89-90                                                                      | 1 133  | 306   | 270.25       | 2.72      | 980    | 3.20      | 3 086     | 367.65       |
| 90-91                                                                      | 827    | 240   | 290.46       | 2.55      | 707    | 2.94      | 2 106     | 392.16       |
| 91-92                                                                      | 587    | 183   | 310.99       | 2.38      | 496    | 2.72      | 1 399     | 420.17       |
| 92-93                                                                      | 404    | 134   | 331.75       | 2.23      | 337    | 2.51      | 903       | 448.43       |
| 93-94                                                                      | 270    | 95    | 352.87       | 2.09      | 223    | 2.33      | 566       | 478.17       |
| 94-95                                                                      | 175    | 66    | 374.60       | 1.96      | 142    | 2.17      | 313       | 510.20       |
| 95-96                                                                      | 109    | 43    | 397.35       | 1.84      | 88     | 2.02      | 201       | 543.48       |
| 96-97                                                                      | 66     | 28    | 421.46       | 1.72      | 52     | 1.87      | 113       | 581.40       |
| 97-98                                                                      | 38     | 17    | 447.13       | 1.60      | 30     | 1.74      | 61        | 625.00       |
| 98-99                                                                      | 21     | 10    | 474.35       | 1.50      | 16     | 1.61      | 31        | 666.67       |
| 99-100                                                                     | 11     | 5     | 503.01       | 1.39      | 8      | 1.49      | 15        | 719.42       |
| 100-101                                                                    | 6      | 3     | 532.89       | 1.30      | 4      | 1.38      | 7         | 769.23       |
| 101-102                                                                    | 3      | 2     | 563.70       | 1.21      | 2      | 1.27      | 3         | 826.45       |
| 102-103                                                                    | 1      | 1     | 595.35       | 1.13      | 1      | 1.18      | 1         | 884.96       |

TABLE 61

## LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (292,004), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE<br>INTERVAL.                                    | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |              |
| 1-2                                                                |  |  |               |           |  |            |              |
| 2-3                                                                |  |  |               |           |  |            |              |
| 3-4                                                                |  |  |               |           |  |            |              |
| 4-5                                                                |  |  |               |           |  |            |              |
| 5-6                                                                |  |  |               |           |  |            |              |
| 6-7                                                                |  |  |               |           |  |            |              |
| 7-8                                                                |  |  |               |           |  |            |              |
| 8-9                                                                |  |  |               |           |  |            |              |
| 9-10                                                               |  |  |               |           |  |            |              |
| 10-11                                                              |  |  |               |           |  |            |              |
| 11-12                                                              |  |  |               |           |  |            |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. | Annual rate. |
| 0-1                                                              | 100 000 | 13 548 | 135.48       | 45.14     | 90 381 | 6.67      | 4 514 027    |
| 1-2                                                              | 86 452  | 3 435  | 39.73        | 51.17     | 84 425 | 24.58     | 4 423 646    |
| 2-3                                                              | 83 017  | 1 916  | 23.08        | 52.27     | 82 001 | 42.80     | 4 339 221    |
| 3-4                                                              | 81 101  | 1 179  | 14.53        | 52.49     | 80 488 | 68.27     | 4 257 220    |
| 4-5                                                              | 79 922  | 939    | 11.76        | 52.26     | 79 434 | 84.59     | 4 176 732    |
| 5-6                                                              | 78 983  | 746    | 9.44         | 51.88     | 78 610 | 105.38    | 4 097 298    |
| 6-7                                                              | 78 237  | 590    | 7.55         | 51.37     | 77 942 | 132.11    | 4 018 688    |
| 7-8                                                              | 77 647  | 470    | 6.05         | 50.75     | 77 412 | 164.71    | 3 940 746    |
| 8-9                                                              | 77 177  | 378    | 4.90         | 50.06     | 76 988 | 203.67    | 3 863 334    |
| 9-10                                                             | 76 799  | 313    | 4.07         | 49.30     | 76 642 | 244.86    | 3 786 346    |
| 10-11                                                            | 76 486  | 270    | 3.53         | 48.50     | 76 351 | 282.78    | 3 709 704    |
| 11-12                                                            | 76 216  | 216    | 3.23         | 47.67     | 76 093 | 309.32    | 3 633 353    |
| 12-13                                                            | 75 970  | 238    | 3.14         | 46.82     | 75 851 | 318.70    | 3 557 260    |
| 13-14                                                            | 75 732  | 244    | 3.21         | 45.97     | 75 610 | 309.88    | 3 481 109    |
| 14-15                                                            | 75 488  | 258    | 3.43         | 45.12     | 75 359 | 292.09    | 3 405 799    |
| 15-16                                                            | 75 230  | 281    | 3.74         | 44.27     | 75 089 | 267.22    | 3 330 440    |
| 16-17                                                            | 74 919  | 308    | 4.11         | 43.43     | 74 795 | 212.84    | 3 255 351    |
| 17-18                                                            | 74 611  | 343    | 4.60         | 42.61     | 74 469 | 217.11    | 3 180 556    |
| 18-19                                                            | 74 298  | 383    | 5.15         | 41.81     | 74 106 | 193.49    | 3 106 087    |
| 19-20                                                            | 73 915  | 418    | 5.66         | 41.02     | 73 706 | 176.33    | 3 031 981    |
| 20-21                                                            | 73 497  | 450    | 6.12         | 40.25     | 73 272 | 162.83    | 2 958 275    |
| 21-22                                                            | 73 017  | 478    | 6.53         | 39.50     | 72 808 | 152.32    | 2 885 003    |
| 22-23                                                            | 72 569  | 500    | 6.90         | 38.75     | 72 319 | 144.64    | 2 812 195    |
| 23-24                                                            | 72 069  | 521    | 7.24         | 38.02     | 71 808 | 137.83    | 2 739 876    |
| 24-25                                                            | 71 518  | 543    | 7.58         | 37.29     | 71 276 | 131.26    | 2 668 068    |
| 25-26                                                            | 71 005  | 561    | 7.91         | 36.57     | 70 725 | 126.07    | 2 596 792    |
| 26-27                                                            | 70 414  | 581    | 8.25         | 35.86     | 70 153 | 120.75    | 2 526 067    |
| 27-28                                                            | 69 863  | 596    | 8.54         | 35.15     | 69 565 | 116.72    | 2 455 914    |
| 28-29                                                            | 69 267  | 608    | 8.78         | 34.45     | 68 963 | 113.43    | 2 386 349    |
| 29-30                                                            | 68 659  | 618    | 8.99         | 33.75     | 68 350 | 110.60    | 2 317 386    |
| 30-31                                                            | 68 041  | 627    | 9.23         | 33.05     | 67 728 | 108.02    | 2 249 036    |
| 31-32                                                            | 67 414  | 640    | 9.49         | 32.36     | 67 094 | 104.84    | 2 181 308    |
| 32-33                                                            | 66 774  | 652    | 9.76         | 31.66     | 66 448 | 101.91    | 2 114 214    |
| 33-34                                                            | 66 122  | 662    | 10.00        | 30.97     | 65 791 | 99.38     | 2 047 766    |
| 34-35                                                            | 65 460  | 668    | 10.22        | 30.28     | 65 126 | 97.49     | 1 981 975    |
| 35-36                                                            | 64 792  | 676    | 10.43        | 29.58     | 64 454 | 95.35     | 1 916 849    |
| 36-37                                                            | 64 116  | 681    | 10.62        | 28.89     | 63 775 | 93.65     | 1 852 395    |
| 37-38                                                            | 63 435  | 691    | 10.89        | 28.20     | 63 090 | 91.30     | 1 788 620    |
| 38-39                                                            | 62 744  | 711    | 11.34        | 27.50     | 62 389 | 87.75     | 1 725 530    |
| 39-40                                                            | 62 033  | 737    | 11.90        | 26.81     | 61 665 | 83.67     | 1 663 141    |
| 40-41                                                            | 61 296  | 768    | 12.52        | 26.13     | 60 912 | 79.31     | 1 601 476    |
| 41-42                                                            | 60 528  | 802    | 13.27        | 25.45     | 60 127 | 74.97     | 1 540 564    |
| 42-43                                                            | 59 726  | 828    | 13.86        | 24.77     | 59 312 | 71.63     | 1 480 437    |
| 43-44                                                            | 58 898  | 831    | 14.10        | 24.13     | 58 482 | 70.38     | 1 421 125    |
| 44-45                                                            | 58 067  | 818    | 14.09        | 23.47     | 57 658 | 70.49     | 1 362 643    |

## THE CITY OF BOSTON: 1901.

## TABLE 61

REPORTED DEATHS IN 1900 (5,610), IN 1901 (5,396), AND IN 1902 (5,338).

Illustrative examples, showing how to use the tables, are given on pages 29 to 40.

| AGE<br>INTERVAL. | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                 |
|------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
|                  |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                     |
|                  | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $I_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000/l_x/T_x$                                                                                  |
| 1                | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 57 249 | 809   | 14.13        | 22.79     | 56 845 | 70.27     | 1 304 985 | 43.88        |
| 46-47                                                                      | 56 410 | 797   | 14.13        | 22.11     | 56 012 | 70.32     | 1 248 140 | 45.23        |
| 47-48                                                                      | 55 613 | 805   | 14.46        | 21.42     | 55 240 | 68.62     | 1 192 098 | 46.69        |
| 48-49                                                                      | 54 838 | 812   | 15.35        | 20.73     | 54 417 | 61.63     | 1 136 858 | 48.24        |
| 49-50                                                                      | 53 996 | 898   | 16.64        | 20.05     | 53 547 | 59.63     | 1 082 441 | 49.88        |
| 50-51                                                                      | 53 098 | 952   | 17.92        | 19.38     | 52 622 | 55.28     | 1 028 894 | 51.60        |
| 51-52                                                                      | 52 146 | 1 004 | 19.25        | 18.72     | 51 644 | 51.44     | 976 272   | 53.42        |
| 52-53                                                                      | 51 142 | 1 053 | 20.60        | 18.08     | 50 616 | 48.07     | 924 628   | 55.31        |
| 53-54                                                                      | 50 089 | 1 103 | 22.02        | 17.45     | 49 537 | 44.91     | 874 012   | 57.31        |
| 54-55                                                                      | 48 986 | 1 157 | 23.62        | 16.83     | 48 408 | 41.84     | 824 475   | 59.42        |
| 55-56                                                                      | 47 829 | 1 220 | 25.51        | 16.23     | 47 219 | 38.70     | 776 067   | 61.61        |
| 56-57                                                                      | 46 609 | 1 298 | 27.85        | 15.64     | 45 960 | 35.41     | 728 848   | 63.94        |
| 57-58                                                                      | 45 311 | 1 367 | 30.17        | 15.07     | 44 627 | 32.65     | 682 888   | 66.36        |
| 58-59                                                                      | 43 944 | 1 402 | 31.89        | 14.52     | 43 243 | 30.84     | 638 261   | 68.87        |
| 59-60                                                                      | 42 542 | 1 407 | 33.07        | 13.99     | 41 839 | 29.74     | 595 018   | 71.48        |
| 60-61                                                                      | 41 135 | 1 410 | 34.29        | 13.45     | 40 430 | 28.67     | 553 179   | 74.35        |
| 61-62                                                                      | 39 725 | 1 403 | 35.30        | 12.91     | 39 024 | 27.81     | 512 749   | 77.46        |
| 62-63                                                                      | 38 322 | 1 413 | 36.88        | 12.36     | 37 616 | 26.62     | 473 725   | 80.91        |
| 63-64                                                                      | 36 909 | 1 465 | 39.69        | 11.82     | 36 176 | 24.69     | 436 409   | 84.60        |
| 64-65                                                                      | 35 444 | 1 551 | 43.75        | 11.28     | 34 669 | 22.35     | 399 933   | 88.65        |
| 65-66                                                                      | 33 893 | 1 634 | 48.23        | 10.78     | 33 076 | 20.24     | 365 264   | 92.76        |
| 66-67                                                                      | 32 259 | 1 729 | 53.57        | 10.30     | 31 391 | 18.16     | 332 188   | 97.09        |
| 67-68                                                                      | 30 540 | 1 803 | 59.07        | 9.85      | 29 629 | 16.43     | 300 791   | 101.52       |
| 68-69                                                                      | 28 727 | 1 824 | 63.51        | 9.44      | 27 815 | 15.25     | 271 165   | 105.93       |
| 69-70                                                                      | 26 903 | 1 799 | 66.86        | 9.05      | 26 003 | 14.45     | 243 350   | 110.50       |
| 70-71                                                                      | 25 104 | 1 773 | 70.61        | 8.66      | 24 218 | 13.66     | 217 347   | 115.47       |
| 71-72                                                                      | 23 331 | 1 737 | 74.47        | 8.28      | 22 463 | 12.93     | 193 129   | 120.77       |
| 72-73                                                                      | 21 594 | 1 693 | 78.38        | 7.90      | 20 748 | 12.26     | 170 666   | 126.58       |
| 73-74                                                                      | 19 901 | 1 646 | 82.74        | 7.53      | 19 078 | 11.59     | 149 918   | 132.80       |
| 74-75                                                                      | 18 255 | 1 602 | 87.75        | 7.17      | 17 454 | 10.90     | 130 840   | 139.47       |
| 75-76                                                                      | 16 653 | 1 549 | 93.02        | 6.81      | 15 878 | 10.25     | 113 386   | 146.84       |
| 76-77                                                                      | 15 104 | 1 491 | 98.71        | 6.46      | 14 358 | 9.63      | 97 508    | 154.80       |
| 77-78                                                                      | 13 613 | 1 431 | 105.15       | 6.11      | 12 897 | 9.01      | 83 150    | 163.67       |
| 78-79                                                                      | 12 182 | 1 369 | 112.33       | 5.77      | 11 497 | 8.40      | 70 253    | 173.31       |
| 79-80                                                                      | 10 813 | 1 299 | 120.14       | 5.43      | 10 164 | 7.82      | 58 756    | 184.16       |
| 80-81                                                                      | 9 514  | 1 225 | 128.73       | 5.11      | 8 902  | 7.27      | 48 592    | 195.69       |
| 81-82                                                                      | 8 289  | 1 152 | 139.06       | 4.79      | 7 713  | 6.69      | 39 690    | 208.77       |
| 82-83                                                                      | 7 137  | 1 075 | 150.61       | 4.48      | 6 599  | 6.14      | 31 977    | 223.21       |
| 83-84                                                                      | 6 062  | 991   | 163.50       | 4.19      | 5 566  | 5.62      | 25 378    | 238.66       |
| 84-85                                                                      | 5 071  | 901   | 177.67       | 3.91      | 4 620  | 5.13      | 19 812    | 255.75       |
| 85-86                                                                      | 4 170  | 805   | 193.06       | 3.64      | 3 767  | 4.68      | 15 192    | 274.73       |
| 86-87                                                                      | 3 365  | 705   | 209.58       | 3.40      | 3 012  | 4.27      | 11 425    | 294.12       |
| 87-88                                                                      | 2 660  | 605   | 227.15       | 3.16      | 2 357  | 3.90      | 8 413     | 316.46       |
| 88-89                                                                      | 2 055  | 505   | 245.73       | 2.95      | 1 803  | 3.57      | 6 056     | 338.98       |
| 89-90                                                                      | 1 550  | 411   | 265.34       | 2.74      | 1 345  | 3.27      | 4 253     | 364.96       |
| 90-91                                                                      | 1 139  | 326   | 286.04       | 2.55      | 976    | 3.00      | 2 908     | 392.16       |
| 91-92                                                                      | 813    | 250   | 307.89       | 2.37      | 688    | 2.75      | 1 932     | 421.94       |
| 92-93                                                                      | 563    | 186   | 330.96       | 2.21      | 470    | 2.52      | 1 244     | 452.49       |
| 93-94                                                                      | 377    | 134   | 355.24       | 2.05      | 310    | 2.32      | 774       | 487.80       |
| 94-95                                                                      | 243    | 93    | 380.74       | 1.91      | 197    | 2.13      | 464       | 523.56       |
| 95-96                                                                      | 150    | 61    | 407.43       | 1.77      | 120    | 1.95      | 267       | 564.97       |
| 96-97                                                                      | 89     | 39    | 435.27       | 1.65      | 70     | 1.80      | 147       | 606.06       |
| 97-98                                                                      | 50     | 23    | 464.22       | 1.53      | 39     | 1.65      | 77        | 653.59       |
| 98-99                                                                      | 27     | 13    | 494.24       | 1.42      | 20     | 1.52      | 38        | 704.23       |
| 99-100                                                                     | 14     | 8     | 525.03       | 1.32      | 10     | 1.40      | 18        | 757.58       |
| 100-101                                                                    | 6      | 3     | 556.96       | 1.23      | 5      | 1.30      | 8         | 813.01       |
| 101-102                                                                    | 3      | 2     | 589.71       | 1.14      | 2      | 1.20      | 3         | 877.19       |
| 102-103                                                                    | 1      | 1     | 623.16       | 1.06      | 1      | 1.10      | 1         | 943.40       |

TABLE 62

## LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (342,058), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE<br>INTERVAL.                                    | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 11 330 | 113.30       | 50.28     | 91 956 | 8.12      | 5 028 358 | 19.69        |
| 1-2                                                              | 88 670  | 2 521  | 28.43        | 55.67     | 87 183 | 31.58     | 4 936 402 | 17.96        |
| 2-3                                                              | 86 119  | 1 089  | 12.64        | 56.29     | 85 572 | 78.58     | 4 849 219 | 17.77        |
| 3-4                                                              | 85 060  | 674    | 7.92         | 56.00     | 84 710 | 125.68    | 4 763 617 | 17.86        |
| 4-5                                                              | 84 386  | 567    | 6.72         | 55.45     | 84 091 | 148.31    | 4 678 937 | 18.03        |
| 5-6                                                              | 83 819  | 472    | 5.63         | 54.82     | 83 583 | 177.08    | 4 594 846 | 18.24        |
| 6-7                                                              | 83 317  | 389    | 4.68         | 54.13     | 83 153 | 213.76    | 4 511 263 | 18.47        |
| 7-8                                                              | 82 958  | 322    | 3.88         | 53.38     | 82 797 | 257.13    | 4 428 110 | 18.73        |
| 8-9                                                              | 82 636  | 269    | 3.26         | 52.58     | 82 501 | 306.70    | 4 345 313 | 19.02        |
| 9-10                                                             | 82 367  | 234    | 2.84         | 51.75     | 82 250 | 351.50    | 4 262 812 | 19.32        |
| 10-11                                                            | 82 133  | 216    | 2.63         | 50.90     | 82 025 | 379.75    | 4 180 562 | 19.65        |
| 11-12                                                            | 81 917  | 210    | 2.56         | 50.03     | 81 812 | 389.58    | 4 098 537 | 19.99        |
| 12-13                                                            | 81 707  | 213    | 2.61         | 49.16     | 81 600 | 383.10    | 4 016 725 | 20.34        |
| 13-14                                                            | 81 491  | 224    | 2.75         | 48.29     | 81 382 | 363.31    | 3 935 125 | 20.71        |
| 14-15                                                            | 81 270  | 241    | 2.97         | 47.42     | 81 150 | 336.72    | 3 853 743 | 21.09        |
| 15-16                                                            | 81 029  | 265    | 3.27         | 46.56     | 80 897 | 305.27    | 3 772 593 | 21.48        |
| 16-17                                                            | 80 764  | 294    | 3.65         | 45.71     | 80 617 | 274.21    | 3 691 696 | 21.88        |
| 17-18                                                            | 80 470  | 320    | 3.98         | 44.87     | 80 310 | 250.97    | 3 611 079 | 22.29        |
| 18-19                                                            | 80 150  | 334    | 4.16         | 44.05     | 79 983 | 239.47    | 3 530 769 | 22.70        |
| 19-20                                                            | 79 816  | 341    | 4.27         | 43.23     | 79 646 | 233.57    | 3 450 786 | 23.13        |
| 20-21                                                            | 79 475  | 348    | 4.39         | 42.42     | 79 301 | 227.88    | 3 371 140 | 23.57        |
| 21-22                                                            | 79 127  | 356    | 4.50         | 41.60     | 78 949 | 221.77    | 3 291 839 | 24.04        |
| 22-23                                                            | 78 771  | 369    | 4.68         | 40.79     | 78 587 | 212.97    | 3 212 890 | 24.52        |
| 23-24                                                            | 78 402  | 369    | 4.97         | 39.98     | 78 208 | 201.05    | 3 134 303 | 25.01        |
| 24-25                                                            | 78 013  | 417    | 5.34         | 39.17     | 77 801 | 186.58    | 3 056 095 | 25.53        |
| 25-26                                                            | 77 596  | 443    | 5.71         | 38.38     | 77 374 | 174.66    | 2 978 291 | 26.06        |
| 26-27                                                            | 77 153  | 472    | 6.12         | 37.60     | 76 917 | 162.96    | 2 900 917 | 26.60        |
| 27-28                                                            | 76 681  | 492    | 6.41         | 36.83     | 76 435 | 155.36    | 2 824 000 | 27.15        |
| 28-29                                                            | 76 189  | 495    | 6.50         | 36.06     | 75 941 | 153.42    | 2 747 565 | 27.73        |
| 29-30                                                            | 75 694  | 490    | 6.47         | 35.30     | 75 449 | 153.98    | 2 671 624 | 28.33        |
| 30-31                                                            | 75 204  | 488    | 6.48         | 34.52     | 74 960 | 153.61    | 2 596 175 | 28.97        |
| 31-32                                                            | 74 716  | 483    | 6.47         | 33.74     | 74 475 | 151.19    | 2 521 215 | 29.64        |
| 32-33                                                            | 74 233  | 491    | 6.62         | 32.96     | 73 988 | 150.69    | 2 446 740 | 30.31        |
| 33-34                                                            | 73 742  | 518    | 7.03         | 32.18     | 73 483 | 141.86    | 2 372 752 | 31.08        |
| 34-35                                                            | 73 224  | 557    | 7.60         | 31.40     | 72 945 | 130.96    | 2 299 269 | 31.85        |
| 35-36                                                            | 72 667  | 592    | 8.14         | 30.64     | 72 371 | 122.25    | 2 226 324 | 32.64        |
| 36-37                                                            | 72 075  | 626    | 8.69         | 29.88     | 71 762 | 114.64    | 2 153 953 | 33.47        |
| 37-38                                                            | 71 449  | 657    | 9.19         | 29.14     | 71 121 | 108.25    | 2 082 191 | 34.32        |
| 38-39                                                            | 70 792  | 683    | 9.65         | 28.41     | 70 451 | 103.15    | 2 011 070 | 35.20        |
| 39-40                                                            | 70 109  | 707    | 10.09        | 27.68     | 69 756 | 98.66     | 1 940 619 | 36.13        |
| 40-41                                                            | 69 402  | 736    | 10.60        | 26.96     | 69 034 | 93.80     | 1 870 863 | 37.09        |
| 41-42                                                            | 68 666  | 768    | 11.19        | 26.24     | 68 282 | 88.91     | 1 801 829 | 38.11        |
| 42-43                                                            | 67 898  | 796    | 11.73        | 25.53     | 67 500 | 84.80     | 1 733 547 | 39.17        |
| 43-44                                                            | 67 102  | 813    | 12.11        | 24.83     | 66 695 | 82.04     | 1 666 047 | 40.27        |
| 44-45                                                            | 66 289  | 822    | 12.40        | 24.13     | 65 878 | 80.14     | 1 599 352 | 41.44        |

## THE CITY OF BOSTON: 1910.

## TABLE 62

REPORTED DEATHS IN 1909 (5,259), IN 1910 (5,513), AND IN 1911 (5,531).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE<br>INTERVAL.                                    | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 65 467 | 833   | 12.73        | 23.42     | 65 050 | 78.09     | 1 533 474 | 42.70        |
| 46-47                                                                      | 64 634 | 842   | 13.03        | 22.72     | 64 213 | 76.26     | 1 468 424 | 41.01        |
| 47-48                                                                      | 63 792 | 865   | 13.55        | 22.01     | 63 359 | 73.25     | 1 404 211 | 45.43        |
| 48-49                                                                      | 62 927 | 910   | 14.46        | 21.31     | 62 472 | 68.65     | 1 340 852 | 46.93        |
| 49-50                                                                      | 62 017 | 972   | 15.66        | 20.61     | 61 531 | 63.30     | 1 278 380 | 48.52        |
| 50-51                                                                      | 61 045 | 1 033 | 16.93        | 19.93     | 60 529 | 58.60     | 1 216 849 | 50.18        |
| 51-52                                                                      | 60 012 | 1 102 | 18.36        | 19.27     | 59 461 | 53.96     | 1 156 320 | 51.89        |
| 52-53                                                                      | 58 910 | 1 160 | 19.69        | 18.62     | 58 330 | 50.28     | 1 096 859 | 53.71        |
| 53-54                                                                      | 57 730 | 1 200 | 20.79        | 17.98     | 57 150 | 47.63     | 1 038 529 | 55.62        |
| 54-55                                                                      | 56 550 | 1 233 | 21.79        | 17.35     | 55 933 | 45.36     | 981 379   | 57.64        |
| 55-56                                                                      | 55 317 | 1 272 | 23.00        | 16.73     | 54 681 | 42.99     | 925 446   | 59.77        |
| 56-57                                                                      | 54 045 | 1 315 | 24.33        | 16.11     | 53 387 | 40.60     | 870 765   | 62.07        |
| 57-58                                                                      | 52 730 | 1 360 | 26.17        | 15.50     | 52 040 | 37.71     | 817 378   | 64.52        |
| 58-59                                                                      | 51 350 | 1 472 | 28.66        | 14.90     | 50 614 | 34.38     | 765 338   | 67.11        |
| 59-60                                                                      | 49 878 | 1 568 | 31.43        | 14.33     | 49 094 | 31.31     | 714 724   | 69.78        |
| 60-61                                                                      | 48 310 | 1 648 | 34.12        | 13.78     | 47 486 | 28.81     | 665 630   | 72.57        |
| 61-62                                                                      | 46 662 | 1 716 | 36.76        | 13.25     | 45 804 | 26.69     | 618 144   | 75.47        |
| 62-63                                                                      | 44 946 | 1 765 | 39.28        | 12.73     | 44 064 | 24.97     | 572 310   | 78.55        |
| 63-64                                                                      | 43 181 | 1 806 | 41.82        | 12.23     | 42 278 | 23.41     | 528 276   | 81.77        |
| 64-65                                                                      | 41 375 | 1 844 | 44.58        | 11.75     | 40 453 | 21.94     | 485 998   | 85.11        |
| 65-66                                                                      | 39 531 | 1 881 | 47.58        | 11.27     | 38 590 | 20.52     | 445 515   | 88.73        |
| 66-67                                                                      | 37 650 | 1 917 | 50.91        | 10.81     | 36 692 | 19.14     | 406 955   | 92.51        |
| 67-68                                                                      | 35 733 | 1 942 | 54.35        | 10.36     | 34 762 | 17.90     | 370 263   | 96.53        |
| 68-69                                                                      | 33 791 | 1 945 | 57.56        | 9.93      | 32 818 | 16.87     | 335 501   | 100.70       |
| 69-70                                                                      | 31 816 | 1 927 | 60.52        | 9.50      | 30 882 | 16.03     | 302 683   | 105.26       |
| 70-71                                                                      | 29 919 | 1 906 | 63.68        | 9.08      | 28 966 | 15.20     | 271 801   | 110.13       |
| 71-72                                                                      | 28 013 | 1 875 | 66.91        | 8.67      | 27 076 | 14.44     | 242 835   | 115.34       |
| 72-73                                                                      | 26 138 | 1 844 | 70.55        | 8.25      | 25 216 | 13.67     | 215 759   | 121.21       |
| 73-74                                                                      | 24 291 | 1 820 | 74.91        | 7.84      | 23 384 | 12.85     | 190 543   | 127.55       |
| 74-75                                                                      | 22 474 | 1 800 | 80.09        | 7.44      | 21 574 | 11.99     | 167 159   | 134.41       |
| 75-76                                                                      | 20 674 | 1 779 | 86.06        | 7.04      | 19 785 | 11.12     | 145 585   | 142.05       |
| 76-77                                                                      | 18 895 | 1 760 | 93.16        | 6.66      | 18 015 | 10.24     | 125 800   | 150.15       |
| 77-78                                                                      | 17 135 | 1 739 | 101.48       | 6.29      | 16 265 | 9.35      | 107 785   | 158.98       |
| 78-79                                                                      | 15 396 | 1 708 | 110.91       | 5.94      | 14 542 | 8.51      | 91 520    | 168.35       |
| 79-80                                                                      | 13 688 | 1 660 | 121.27       | 5.62      | 12 858 | 7.75      | 76 978    | 177.94       |
| 80-81                                                                      | 12 028 | 1 589 | 132.07       | 5.33      | 11 234 | 7.07      | 64 120    | 187.62       |
| 81-82                                                                      | 10 439 | 1 490 | 142.82       | 5.07      | 9 691  | 6.50      | 52 886    | 197.24       |
| 82-83                                                                      | 8 949  | 1 370 | 153.10       | 4.83      | 8 264  | 6.03      | 43 192    | 207.04       |
| 83-84                                                                      | 7 579  | 1 233 | 162.66       | 4.61      | 6 962  | 5.65      | 34 928    | 216.92       |
| 84-85                                                                      | 6 346  | 1 088 | 171.47       | 4.41      | 5 802  | 5.33      | 27 966    | 226.76       |
| 85-86                                                                      | 5 258  | 945   | 179.76       | 4.22      | 4 785  | 5.06      | 22 164    | 236.97       |
| 86-87                                                                      | 4 313  | 811   | 187.93       | 4.03      | 3 907  | 4.82      | 17 379    | 248.14       |
| 87-88                                                                      | 3 502  | 688   | 196.44       | 3.85      | 3 158  | 4.59      | 13 472    | 259.74       |
| 88-89                                                                      | 2 814  | 579   | 206.72       | 3.67      | 2 525  | 4.36      | 10 314    | 272.48       |
| 89-90                                                                      | 2 235  | 483   | 216.04       | 3.49      | 1 994  | 4.13      | 7 789     | 286.53       |
| 90-91                                                                      | 1 752  | 398   | 227.52       | 3.31      | 1 553  | 3.90      | 5 795     | 302.11       |
| 91-92                                                                      | 1 354  | 325   | 240.11       | 3.14      | 1 191  | 3.66      | 4 242     | 318.47       |
| 92-93                                                                      | 1 029  | 261   | 253.70       | 2.97      | 898    | 3.44      | 3 051     | 336.70       |
| 93-94                                                                      | 768    | 206   | 268.17       | 2.81      | 665    | 3.23      | 2 153     | 355.87       |
| 94-95                                                                      | 562    | 159   | 283.50       | 2.65      | 482    | 3.03      | 1 488     | 377.36       |
| 95-96                                                                      | 403    | 121   | 299.69       | 2.50      | 342    | 2.84      | 1 006     | 400.00       |
| 96-97                                                                      | 282    | 89    | 316.83       | 2.36      | 237    | 2.66      | 664       | 423.73       |
| 97-98                                                                      | 193    | 65    | 335.09       | 2.22      | 160    | 2.48      | 427       | 450.45       |
| 98-99                                                                      | 128    | 45    | 354.40       | 2.09      | 105    | 2.32      | 267       | 478.17       |
| 99-100                                                                     | 83     | 31    | 374.92       | 1.96      | 67     | 2.17      | 162       | 510.20       |
| 100-101                                                                    | 52     | 21    | 396.74       | 1.84      | 41     | 2.02      | 95        | 543.48       |
| 101-102                                                                    | 31     | 13    | 419.96       | 1.73      | 25     | 1.88      | 54        | 578.03       |
| 102-103                                                                    | 18     | 8     | 444.68       | 1.61      | 14     | 1.75      | 29        | 621.42       |
| 103-104                                                                    | 10     | 5     | 471.02       | 1.51      | 8      | 1.62      | 15        | 662.25       |
| 104-105                                                                    | 5      | 2     | 499.11       | 1.40      | 4      | 1.50      | 7         | 714.29       |
| 105-106                                                                    | 3      | 2     | 529.11       | 1.31      | 2      | 1.39      | 3         | 763.36       |
| 106-107                                                                    | 1      | 1     | 561.17       | 1.21      | 1      | 1.28      | 1         | 826.45       |

TABLE 63

## LIFE TABLE FOR MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (892,052), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE INTERVAL.                              | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                   | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                             | $T_x$                                                              | $1000l_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                       | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           | 100 000 | 12 010 | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              |         |        | 120.10       | 46.31     | 91 352 | 7.61      | 4 631 387 | 21.59        |
| 1-2                                                              | 87 990  | 3 132  | 35.59        | 51.61     | 86 112 | 27.50     | 4 510 035 | 19.38        |
| 2-3                                                              | 84 858  | 1 391  | 16.39        | 52.19     | 84 121 | 60.48     | 4 453 893 | 19.05        |
| 3-4                                                              | 83 467  | 930    | 11.15        | 52.35     | 82 983 | 89.23     | 4 369 772 | 19.10        |
| 4-5                                                              | 82 537  | 728    | 8.82         | 51.94     | 82 158 | 112.85    | 4 286 789 | 19.25        |
| 5-6                                                              | 81 809  | 580    | 7.09         | 51.40     | 81 519 | 140.55    | 4 204 631 | 19.16        |
| 6-7                                                              | 81 229  | 472    | 5.81         | 50.76     | 80 993 | 171.60    | 4 123 112 | 19.70        |
| 7-8                                                              | 80 757  | 388    | 4.80         | 50.05     | 80 563 | 207.64    | 4 042 119 | 19.98        |
| 8-9                                                              | 80 369  | 324    | 4.03         | 49.29     | 80 207 | 247.55    | 3 961 556 | 20.29        |
| 9-10                                                             | 80 045  | 279    | 3.48         | 48.49     | 79 906 | 286.10    | 3 881 319 | 20.62        |
| 10-11                                                            | 79 766  | 250    | 3.14         | 47.66     | 79 641 | 318.56    | 3 801 443 | 20.98        |
| 11-12                                                            | 79 516  | 238    | 3.00         | 46.81     | 79 397 | 333.60    | 3 721 802 | 21.36        |
| 12-13                                                            | 79 278  | 241    | 3.01         | 45.94     | 79 167 | 328.45    | 3 642 405 | 21.77        |
| 13-14                                                            | 79 037  | 257    | 3.25         | 45.08     | 78 908 | 307.01    | 3 563 248 | 22.18        |
| 14-15                                                            | 78 780  | 285    | 3.61         | 44.23     | 78 638 | 275.92    | 3 484 310 | 22.61        |
| 15-16                                                            | 78 495  | 321    | 4.13         | 43.39     | 78 333 | 241.77    | 3 405 702 | 23.05        |
| 16-17                                                            | 78 171  | 375    | 4.80         | 42.57     | 77 981 | 207.96    | 3 327 369 | 23.49        |
| 17-18                                                            | 77 796  | 421    | 5.41         | 41.77     | 77 586 | 184.29    | 3 249 385 | 23.91        |
| 18-19                                                            | 77 375  | 449    | 5.81         | 40.99     | 77 150 | 171.83    | 3 171 799 | 24.40        |
| 19-20                                                            | 76 926  | 465    | 6.04         | 40.23     | 76 693 | 161.93    | 3 094 619 | 24.86        |
| 20-21                                                            | 76 461  | 483    | 6.32         | 39.47     | 76 219 | 157.80    | 3 017 956 | 25.34        |
| 21-22                                                            | 75 978  | 503    | 6.61         | 38.72     | 75 726 | 150.55    | 2 941 737 | 25.83        |
| 22-23                                                            | 75 475  | 514    | 6.81         | 37.97     | 75 218 | 146.34    | 2 866 011 | 26.31        |
| 23-24                                                            | 74 961  | 516    | 6.89         | 37.23     | 74 703 | 144.77    | 2 790 793 | 26.86        |
| 24-25                                                            | 74 445  | 515    | 6.91         | 36.48     | 74 187 | 144.05    | 2 716 090 | 27.41        |
| 25-26                                                            | 73 930  | 513    | 6.94         | 35.74     | 73 674 | 143.61    | 2 641 903 | 27.98        |
| 26-27                                                            | 73 417  | 510    | 6.95         | 34.98     | 73 162 | 143.45    | 2 568 229 | 28.59        |
| 27-28                                                            | 72 907  | 514    | 7.05         | 34.22     | 72 650 | 141.34    | 2 495 067 | 29.22        |
| 28-29                                                            | 72 393  | 529    | 7.31         | 33.46     | 72 129 | 136.35    | 2 422 417 | 29.89        |
| 29-30                                                            | 71 864  | 551    | 7.67         | 32.70     | 71 589 | 129.93    | 2 350 288 | 30.58        |
| 30-31                                                            | 71 313  | 573    | 8.04         | 31.95     | 71 026 | 123.95    | 2 278 699 | 31.30        |
| 31-32                                                            | 70 740  | 596    | 8.42         | 31.21     | 70 442 | 118.19    | 2 207 673 | 32.01        |
| 32-33                                                            | 70 144  | 619    | 8.82         | 30.47     | 69 831 | 112.82    | 2 137 231 | 32.82        |
| 33-34                                                            | 69 525  | 641    | 9.22         | 29.74     | 69 204 | 107.96    | 2 067 397 | 33.62        |
| 34-35                                                            | 68 884  | 663    | 9.62         | 29.01     | 68 553 | 103.40    | 1 998 193 | 34.47        |
| 35-36                                                            | 68 221  | 685    | 10.05        | 28.29     | 67 879 | 99.09     | 1 929 640 | 35.35        |
| 36-37                                                            | 67 536  | 708    | 10.49        | 27.57     | 67 182 | 94.89     | 1 861 761 | 36.27        |
| 37-38                                                            | 66 828  | 735    | 10.99        | 26.85     | 66 461 | 90.42     | 1 794 579 | 37.24        |
| 38-39                                                            | 66 093  | 767    | 11.61        | 26.15     | 65 710 | 85.67     | 1 728 118 | 38.24        |
| 39-40                                                            | 65 326  | 805    | 12.32        | 25.45     | 64 924 | 80.65     | 1 662 408 | 39.29        |
| 40-41                                                            | 64 521  | 844    | 13.08        | 24.78     | 64 099 | 75.95     | 1 597 484 | 40.39        |
| 41-42                                                            | 63 677  | 888    | 13.94        | 24.08     | 63 233 | 71.21     | 1 533 385 | 41.53        |
| 42-43                                                            | 62 769  | 926    | 14.75        | 23.41     | 62 326 | 67.31     | 1 470 152 | 42.73        |
| 43-44                                                            | 61 863  | 954    | 15.43        | 22.76     | 61 386 | 64.35     | 1 407 826 | 43.94        |
| 44-45                                                            | 60 909  | 977    | 16.04        | 22.11     | 60 420 | 61.84     | 1 346 440 | 45.23        |



## THE CITY OF CHICAGO: 1901.

## TABLE 63

REPORTED DEATHS IN 1900 (14,382), IN 1901 (13,510), AND IN 1902 (14,991).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE<br>INTERVAL.                                    | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 59 932 | 1 005 | 16.76        | 21.46     | 59 430 | 59.13     | 1 286 020 | 46.60        |
| 46-47                                                                      | 58 927 | 1 034 | 17.56        | 20.82     | 58 410 | 56.49     | 1 226 590 | 48.03        |
| 47-48                                                                      | 57 893 | 1 072 | 18.52        | 20.18     | 57 357 | 53.50     | 1 168 180 | 49.55        |
| 48-49                                                                      | 56 821 | 1 116 | 19.63        | 19.55     | 56 263 | 50.41     | 1 110 823 | 51.15        |
| 49-50                                                                      | 55 705 | 1 168 | 20.80        | 18.93     | 55 126 | 47.60     | 1 054 560 | 52.83        |
| 50-51                                                                      | 54 547 | 1 199 | 21.97        | 18.32     | 53 948 | 44.99     | 999 434   | 54.59        |
| 51-52                                                                      | 53 348 | 1 234 | 23.14        | 17.72     | 52 731 | 42.73     | 945 486   | 56.43        |
| 52-53                                                                      | 52 114 | 1 267 | 24.32        | 17.13     | 51 480 | 40.63     | 892 755   | 58.38        |
| 53-54                                                                      | 50 847 | 1 302 | 25.60        | 16.55     | 50 196 | 38.55     | 841 275   | 60.42        |
| 54-55                                                                      | 49 545 | 1 341 | 27.08        | 15.97     | 48 874 | 36.45     | 791 079   | 62.62        |
| 55-56                                                                      | 48 204 | 1 385 | 28.74        | 15.40     | 47 511 | 34.30     | 742 205   | 64.94        |
| 56-57                                                                      | 46 819 | 1 437 | 30.69        | 14.84     | 46 100 | 32.08     | 694 694   | 67.39        |
| 57-58                                                                      | 45 382 | 1 483 | 32.67        | 14.29     | 44 610 | 30.10     | 648 594   | 69.98        |
| 58-59                                                                      | 43 899 | 1 507 | 34.32        | 13.76     | 43 146 | 28.63     | 603 954   | 72.67        |
| 59-60                                                                      | 42 392 | 1 510 | 35.63        | 13.23     | 41 637 | 27.57     | 560 808   | 75.59        |
| 60-61                                                                      | 40 882 | 1 512 | 37.00        | 12.70     | 40 126 | 26.54     | 519 171   | 78.74        |
| 61-62                                                                      | 39 370 | 1 505 | 38.23        | 12.17     | 38 617 | 25.66     | 479 015   | 82.17        |
| 62-63                                                                      | 37 855 | 1 516 | 40.03        | 11.63     | 37 107 | 24.48     | 440 428   | 85.98        |
| 63-64                                                                      | 36 349 | 1 564 | 43.04        | 11.10     | 35 567 | 22.74     | 403 321   | 90.09        |
| 64-65                                                                      | 34 785 | 1 644 | 47.25        | 10.57     | 33 963 | 20.66     | 367 784   | 94.61        |
| 65-66                                                                      | 33 141 | 1 719 | 51.86        | 10.07     | 32 282 | 18.78     | 333 791   | 99.30        |
| 66-67                                                                      | 31 422 | 1 797 | 57.20        | 9.60      | 30 524 | 16.99     | 301 509   | 104.17       |
| 67-68                                                                      | 29 625 | 1 860 | 62.80        | 9.15      | 28 695 | 15.43     | 270 985   | 109.29       |
| 68-69                                                                      | 27 765 | 1 884 | 67.84        | 8.73      | 26 823 | 14.24     | 242 290   | 114.55       |
| 69-70                                                                      | 25 881 | 1 871 | 72.30        | 8.33      | 24 945 | 13.33     | 215 467   | 120.05       |
| 70-71                                                                      | 24 010 | 1 855 | 77.24        | 7.94      | 23 083 | 12.44     | 190 522   | 125.94       |
| 71-72                                                                      | 22 155 | 1 827 | 82.49        | 7.56      | 21 242 | 11.63     | 167 439   | 132.28       |
| 72-73                                                                      | 20 328 | 1 784 | 87.75        | 7.19      | 19 436 | 10.89     | 146 197   | 139.08       |
| 73-74                                                                      | 18 544 | 1 728 | 93.19        | 6.84      | 17 680 | 10.23     | 126 761   | 146.20       |
| 74-75                                                                      | 16 816 | 1 665 | 99.04        | 6.49      | 15 983 | 9.60      | 109 081   | 154.08       |
| 75-76                                                                      | 15 151 | 1 595 | 105.25       | 6.14      | 14 353 | 9.00      | 93 098    | 162.87       |
| 76-77                                                                      | 13 556 | 1 516 | 111.86       | 5.81      | 12 798 | 8.44      | 78 745    | 172.12       |
| 77-78                                                                      | 12 040 | 1 438 | 119.43       | 5.48      | 11 321 | 7.87      | 65 947    | 182.48       |
| 78-79                                                                      | 10 602 | 1 360 | 128.24       | 5.15      | 9 923  | 7.30      | 54 626    | 194.17       |
| 79-80                                                                      | 9 242  | 1 277 | 138.17       | 4.84      | 8 604  | 6.74      | 44 704    | 206.61       |
| 80-81                                                                      | 7 965  | 1 188 | 149.15       | 4.53      | 7 371  | 6.20      | 36 100    | 220.75       |
| 81-82                                                                      | 6 777  | 1 093 | 161.38       | 4.24      | 6 230  | 5.70      | 28 729    | 235.85       |
| 82-83                                                                      | 5 684  | 996   | 175.13       | 3.96      | 5 186  | 5.21      | 22 499    | 252.53       |
| 83-84                                                                      | 4 688  | 893   | 190.44       | 3.69      | 4 242  | 4.75      | 17 313    | 271.00       |
| 84-85                                                                      | 3 795  | 786   | 207.20       | 3.44      | 3 402  | 4.33      | 13 071    | 290.70       |
| 85-86                                                                      | 3 009  | 677   | 225.13       | 3.21      | 2 670  | 3.94      | 9 669     | 311.53       |
| 86-87                                                                      | 2 332  | 569   | 243.83       | 3.00      | 2 047  | 3.60      | 6 999     | 333.33       |
| 87-88                                                                      | 1 763  | 463   | 262.90       | 2.81      | 1 531  | 3.30      | 4 953     | 355.87       |
| 88-89                                                                      | 1 300  | 367   | 282.07       | 2.63      | 1 116  | 3.05      | 3 421     | 380.23       |
| 89-90                                                                      | 933    | 281   | 301.24       | 2.47      | 792    | 2.82      | 2 305     | 404.86       |
| 90-91                                                                      | 652    | 209   | 320.53       | 2.32      | 547    | 2.62      | 1 513     | 431.03       |
| 91-92                                                                      | 443    | 151   | 340.16       | 2.18      | 368    | 2.44      | 966       | 458.72       |
| 92-93                                                                      | 292    | 105   | 360.53       | 2.05      | 240    | 2.27      | 598       | 487.80       |
| 93-94                                                                      | 187    | 71    | 382.00       | 1.92      | 151    | 2.12      | 358       | 520.83       |
| 94-95                                                                      | 116    | 47    | 404.82       | 1.80      | 92     | 1.97      | 207       | 555.56       |
| 95-96                                                                      | 69     | 30    | 429.03       | 1.69      | 54     | 1.83      | 115       | 591.72       |
| 96-97                                                                      | 39     | 18    | 454.58       | 1.58      | 30     | 1.70      | 61        | 632.91       |
| 97-98                                                                      | 21     | 10    | 481.27       | 1.47      | 16     | 1.68      | 31        | 680.27       |
| 98-99                                                                      | 11     | 6     | 508.92       | 1.38      | 8      | 1.46      | 15        | 724.64       |
| 99-100                                                                     | 5      | 2     | 537.33       | 1.29      | 4      | 1.36      | 7         | 775.19       |
| 100-101                                                                    | 3      | 2     | 566.60       | 1.20      | 2      | 1.26      | 3         | 833.33       |
| 101-102                                                                    | 1      | 1     | 596.66       | 1.13      | 1      | 1.18      | 1         | 884.96       |

TABLE 64

## LIFE TABLE FOR MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (1,131,054), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE INTERVAL.                              | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                   | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                       | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years: |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 13 066 | 130.66       | 45.92     | 90 592 | 6.93      | 4 591 642 | 21.78        |
| 1-2                                                              | 86 934  | 3 013  | 34.65        | 51.78     | 85 156 | 28.26     | 4 501 050 | 19.31        |
| 2-3                                                              | 83 921  | 1 367  | 16.30        | 53.62     | 83 196 | 60.86     | 4 415 894 | 19.00        |
| 3-4                                                              | 82 554  | 879    | 10.64        | 52.48     | 82 097 | 93.40     | 4 332 698 | 19.05        |
| 4-5                                                              | 81 675  | 655    | 8.03         | 52.04     | 81 335 | 124.18    | 4 250 601 | 19.22        |
| 5-6                                                              | 81 020  | 514    | 6.35         | 51.46     | 80 763 | 157.13    | 4 169 266 | 19.43        |
| 6-7                                                              | 80 506  | 419    | 5.20         | 50.79     | 80 296 | 191.61    | 4 088 503 | 19.69        |
| 7-8                                                              | 80 087  | 341    | 4.26         | 50.05     | 79 916 | 234.36    | 4 008 207 | 19.98        |
| 8-9                                                              | 79 746  | 281    | 3.52         | 49.26     | 79 605 | 283.29    | 3 928 291 | 20.30        |
| 9-10                                                             | 79 465  | 237    | 2.98         | 48.43     | 79 346 | 334.79    | 3 848 686 | 20.65        |
| 10-11                                                            | 79 228  | 209    | 2.63         | 47.58     | 79 124 | 378.58    | 3 769 340 | 21.02        |
| 11-12                                                            | 79 019  | 193    | 2.45         | 46.70     | 78 923 | 408.93    | 3 690 216 | 21.41        |
| 12-13                                                            | 78 820  | 192    | 2.44         | 45.81     | 78 730 | 410.05    | 3 611 293 | 21.83        |
| 13-14                                                            | 78 634  | 202    | 2.56         | 44.92     | 78 533 | 388.78    | 3 532 563 | 22.26        |
| 14-15                                                            | 78 432  | 220    | 2.81         | 44.04     | 78 322 | 356.01    | 3 454 030 | 22.71        |
| 15-16                                                            | 78 212  | 247    | 3.15         | 43.16     | 78 089 | 316.15    | 3 375 708 | 23.17        |
| 16-17                                                            | 77 965  | 279    | 3.58         | 42.30     | 77 826 | 278.95    | 3 297 619 | 23.64        |
| 17-18                                                            | 77 686  | 311    | 4.01         | 41.45     | 77 531 | 249.30    | 3 219 793 | 24.13        |
| 18-19                                                            | 77 375  | 341    | 4.41         | 40.61     | 77 204 | 226.40    | 3 142 262 | 24.62        |
| 19-20                                                            | 77 034  | 365    | 4.74         | 39.79     | 76 851 | 210.55    | 3 065 058 | 25.13        |
| 20-21                                                            | 76 669  | 389    | 5.07         | 38.98     | 76 474 | 196.59    | 2 988 207 | 25.65        |
| 21-22                                                            | 76 280  | 412    | 5.40         | 38.17     | 76 074 | 184.65    | 2 911 733 | 26.20        |
| 22-23                                                            | 75 868  | 431    | 5.68         | 37.38     | 75 652 | 175.53    | 2 835 659 | 26.75        |
| 23-24                                                            | 75 437  | 445    | 5.90         | 36.59     | 75 214 | 169.02    | 2 760 007 | 27.33        |
| 24-25                                                            | 74 992  | 457    | 6.10         | 35.80     | 74 763 | 163.60    | 2 684 793 | 27.93        |
| 25-26                                                            | 74 535  | 471    | 6.31         | 35.02     | 74 299 | 157.75    | 2 610 030 | 28.56        |
| 26-27                                                            | 74 064  | 484    | 6.54         | 34.24     | 73 822 | 152.52    | 2 535 731 | 29.21        |
| 27-28                                                            | 73 580  | 499    | 6.79         | 33.46     | 73 330 | 146.95    | 2 461 909 | 29.89        |
| 28-29                                                            | 73 081  | 519    | 7.09         | 32.68     | 72 821 | 140.31    | 2 388 579 | 30.60        |
| 29-30                                                            | 72 562  | 510    | 7.45         | 31.91     | 72 292 | 133.87    | 2 315 758 | 31.34        |
| 30-31                                                            | 72 022  | 566    | 7.85         | 31.15     | 71 739 | 126.75    | 2 243 466 | 32.10        |
| 31-32                                                            | 71 456  | 593    | 8.30         | 30.39     | 71 160 | 120.00    | 2 171 727 | 32.91        |
| 32-33                                                            | 70 863  | 624    | 8.80         | 29.64     | 70 551 | 113.06    | 2 100 567 | 33.74        |
| 33-34                                                            | 70 239  | 656    | 9.31         | 28.90     | 69 911 | 106.57    | 2 030 016 | 34.60        |
| 34-35                                                            | 69 583  | 688    | 9.89         | 28.17     | 69 239 | 100.64    | 1 960 105 | 35.50        |
| 35-36                                                            | 68 895  | 723    | 10.49        | 27.45     | 68 534 | 94.79     | 1 890 866 | 36.43        |
| 36-37                                                            | 68 172  | 758    | 11.13        | 26.73     | 67 793 | 89.44     | 1 822 322 | 37.41        |
| 37-38                                                            | 67 414  | 794    | 11.77        | 26.03     | 67 017 | 84.40     | 1 754 539 | 38.42        |
| 38-39                                                            | 66 620  | 826    | 12.40        | 25.33     | 66 207 | 80.15     | 1 687 522 | 39.48        |
| 39-40                                                            | 65 794  | 858    | 13.04        | 24.64     | 65 365 | 76.18     | 1 621 315 | 40.58        |
| 40-41                                                            | 64 936  | 890    | 13.71        | 23.96     | 64 491 | 72.46     | 1 555 960 | 41.74        |
| 41-42                                                            | 64 046  | 921    | 14.38        | 23.29     | 63 586 | 69.04     | 1 491 459 | 42.94        |
| 42-43                                                            | 63 125  | 956    | 15.16        | 22.62     | 62 647 | 65.53     | 1 427 873 | 44.21        |
| 43-44                                                            | 62 169  | 1 001  | 16.10        | 21.96     | 61 668 | 61.61     | 1 365 226 | 45.54        |
| 44-45                                                            | 61 168  | 1 051  | 17.17        | 21.31     | 60 642 | 57.70     | 1 303 558 | 46.93        |

## THE CITY OF CHICAGO: 1910.

## TABLE 64

REPORTED DEATHS IN 1909 (17,871), IN 1910 (19,169), AND IN 1911 (18,947).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                   | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                       | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 60 117 | 1 099 | 18.28        | 20.67     | 59 568 | 51.20     | 1 242 916 | 48.38        |
| 46-47                                                                      | 59 018 | 1 148 | 19.46        | 20.05     | 58 414 | 50.91     | 1 183 348 | 49.88        |
| 47-48                                                                      | 57 870 | 1 193 | 20.61        | 19.44     | 57 274 | 48.01     | 1 124 904 | 51.44        |
| 48-49                                                                      | 56 677 | 1 226 | 21.63        | 18.84     | 56 061 | 45.73     | 1 067 630 | 53.08        |
| 49-50                                                                      | 55 431 | 1 252 | 22.58        | 18.24     | 54 825 | 43.79     | 1 011 566 | 54.82        |
| 50-51                                                                      | 54 199 | 1 278 | 23.59        | 17.65     | 53 560 | 41.91     | 956 741   | 56.66        |
| 51-52                                                                      | 52 921 | 1 303 | 24.61        | 17.07     | 52 270 | 40.12     | 903 181   | 58.58        |
| 52-53                                                                      | 51 618 | 1 332 | 25.81        | 16.48     | 50 952 | 38.25     | 850 911   | 60.68        |
| 53-54                                                                      | 50 286 | 1 377 | 27.39        | 15.91     | 49 597 | 36.02     | 799 959   | 62.85        |
| 54-55                                                                      | 48 909 | 1 438 | 29.39        | 15.34     | 48 190 | 33.51     | 750 362   | 65.19        |
| 55-56                                                                      | 47 471 | 1 507 | 31.74        | 14.79     | 46 718 | 31.00     | 702 172   | 67.61        |
| 56-57                                                                      | 45 964 | 1 595 | 34.71        | 14.26     | 45 167 | 28.32     | 655 454   | 70.13        |
| 57-58                                                                      | 44 369 | 1 675 | 37.74        | 13.75     | 43 532 | 25.99     | 610 287   | 72.73        |
| 58-59                                                                      | 42 694 | 1 707 | 39.98        | 13.27     | 41 841 | 24.51     | 566 755   | 75.36        |
| 59-60                                                                      | 40 987 | 1 696 | 41.40        | 12.81     | 40 139 | 23.67     | 524 914   | 78.06        |
| 60-61                                                                      | 39 291 | 1 686 | 42.89        | 12.34     | 38 448 | 22.80     | 484 775   | 81.04        |
| 61-62                                                                      | 37 605 | 1 660 | 44.15        | 11.87     | 36 775 | 22.15     | 446 327   | 84.25        |
| 62-63                                                                      | 35 945 | 1 650 | 45.92        | 11.39     | 35 120 | 21.28     | 409 552   | 87.80        |
| 63-64                                                                      | 34 295 | 1 679 | 48.94        | 10.92     | 33 455 | 19.93     | 374 432   | 91.58        |
| 64-65                                                                      | 32 616 | 1 732 | 53.11        | 10.45     | 31 750 | 18.33     | 340 977   | 95.69        |
| 65-66                                                                      | 30 884 | 1 772 | 57.39        | 10.01     | 29 998 | 16.93     | 309 227   | 99.90        |
| 66-67                                                                      | 29 112 | 1 809 | 62.12        | 9.59      | 28 207 | 15.69     | 279 229   | 104.28       |
| 67-68                                                                      | 27 303 | 1 817 | 66.56        | 9.19      | 26 395 | 14.53     | 251 022   | 108.81       |
| 68-69                                                                      | 25 486 | 1 784 | 70.01        | 8.81      | 24 594 | 13.79     | 224 627   | 113.51       |
| 69-70                                                                      | 23 702 | 1 723 | 72.71        | 8.44      | 22 840 | 13.26     | 200 033   | 118.48       |
| 70-71                                                                      | 21 979 | 1 664 | 75.67        | 8.06      | 21 147 | 12.71     | 177 193   | 124.07       |
| 71-72                                                                      | 20 315 | 1 620 | 79.75        | 7.68      | 19 505 | 12.04     | 156 016   | 130.21       |
| 72-73                                                                      | 18 695 | 1 586 | 84.82        | 7.30      | 17 902 | 11.29     | 136 541   | 136.99       |
| 73-74                                                                      | 17 109 | 1 551 | 90.85        | 6.93      | 16 332 | 10.51     | 118 639   | 144.30       |
| 74-75                                                                      | 15 555 | 1 523 | 97.90        | 6.58      | 14 794 | 9.71      | 102 307   | 151.98       |
| 75-76                                                                      | 14 032 | 1 485 | 105.88       | 6.24      | 13 289 | 8.95      | 87 513    | 160.26       |
| 76-77                                                                      | 12 547 | 1 438 | 114.61       | 5.92      | 11 828 | 8.23      | 74 224    | 168.92       |
| 77-78                                                                      | 11 109 | 1 377 | 123.91       | 5.62      | 10 420 | 7.57      | 62 396    | 177.94       |
| 78-79                                                                      | 9 732  | 1 300 | 133.58       | 5.34      | 9 082  | 6.99      | 51 976    | 187.27       |
| 79-80                                                                      | 8 432  | 1 209 | 143.37       | 5.09      | 7 828  | 6.47      | 42 894    | 196.46       |
| 80-81                                                                      | 7 223  | 1 106 | 153.07       | 4.85      | 6 670  | 6.03      | 35 066    | 206.19       |
| 81-82                                                                      | 6 117  | 993   | 162.45       | 4.64      | 5 621  | 5.66      | 28 396    | 215.52       |
| 82-83                                                                      | 5 124  | 878   | 171.37       | 4.44      | 4 685  | 5.34      | 22 775    | 225.23       |
| 83-84                                                                      | 4 246  | 761   | 179.79       | 4.26      | 3 861  | 5.06      | 18 090    | 234.74       |
| 84-85                                                                      | 3 482  | 654   | 187.85       | 4.09      | 3 155  | 4.82      | 14 226    | 244.50       |
| 85-86                                                                      | 2 828  | 554   | 195.88       | 3.91      | 2 551  | 4.61      | 11 071    | 255.75       |
| 86-87                                                                      | 2 274  | 464   | 204.27       | 3.75      | 2 042  | 4.40      | 8 520     | 266.67       |
| 87-88                                                                      | 1 810  | 387   | 213.39       | 3.58      | 1 617  | 4.19      | 6 478     | 279.33       |
| 88-89                                                                      | 1 423  | 318   | 223.48       | 3.41      | 1 264  | 3.97      | 4 861     | 293.26       |
| 89-90                                                                      | 1 105  | 259   | 234.60       | 3.25      | 976    | 3.76      | 3 597     | 307.69       |
| 90-91                                                                      | 846    | 209   | 246.66       | 3.10      | 742    | 3.55      | 2 621     | 322.58       |
| 91-92                                                                      | 637    | 165   | 259.42       | 2.95      | 553    | 3.35      | 1 879     | 338.98       |
| 92-93                                                                      | 472    | 129   | 272.63       | 2.81      | 408    | 3.17      | 1 324     | 355.87       |
| 93-94                                                                      | 343    | 98    | 286.12       | 2.67      | 294    | 3.00      | 916       | 374.33       |
| 94-95                                                                      | 245    | 73    | 299.92       | 2.54      | 208    | 2.83      | 622       | 393.70       |
| 95-96                                                                      | 172    | 54    | 314.20       | 2.41      | 145    | 2.68      | 414       | 414.94       |
| 96-97                                                                      | 118    | 39    | 329.26       | 2.29      | 98     | 2.54      | 269       | 436.68       |
| 97-98                                                                      | 79     | 27    | 345.39       | 2.17      | 65     | 2.40      | 171       | 460.83       |
| 98-99                                                                      | 52     | 19    | 362.98       | 2.05      | 42     | 2.25      | 106       | 487.80       |
| 99-100                                                                     | 33     | 13    | 381.97       | 1.94      | 27     | 2.12      | 64        | 515.46       |
| 100-101                                                                    | 20     | 8     | 402.14       | 1.83      | 16     | 1.99      | 37        | 546.45       |
| 101-102                                                                    | 12     | 5     | 423.60       | 1.72      | 10     | 1.86      | 21        | 581.40       |
| 102-103                                                                    | 7      | 3     | 446.45       | 1.62      | 5      | 1.74      | 11        | 617.28       |
| 103-104                                                                    | 4      | 2     | 470.81       | 1.51      | 3      | 1.63      | 6         | 662.25       |
| 104-105                                                                    | 2      | 1     | 496.84       | 1.42      | 2      | 1.51      | 3         | 704.23       |
| 105-106                                                                    | 1      | 1     | 524.68       | 1.32      | 1      | 1.41      | 1         | 757.38       |

TABLE 65

## LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (859,917), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE.             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |       |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 9 762 | 97.62        | 50.79     | 93 069 | 9.53      | 5 079 412 | 19.69        |
| 1-2                                                              | 90 238  | 3 002 | 33.27        | 55.26     | 88 467 | 29.47     | 4 986 313 | 18.10        |
| 2-3                                                              | 87 236  | 1 318 | 15.11        | 56.15     | 86 537 | 65.66     | 4 897 876 | 17.81        |
| 3-4                                                              | 85 918  | 882   | 10.26        | 56.00     | 85 459 | 96.89     | 4 811 339 | 17.86        |
| 4-5                                                              | 85 036  | 712   | 8.38         | 55.58     | 84 666 | 118.91    | 4 725 880 | 17.99        |
| 5-6                                                              | 84 324  | 573   | 6.79         | 55.04     | 84 038 | 146.66    | 4 641 214 | 18.17        |
| 6-7                                                              | 83 751  | 458   | 5.47         | 54.41     | 83 522 | 182.36    | 4 557 176 | 18.38        |
| 7-8                                                              | 83 293  | 368   | 4.42         | 53.71     | 83 109 | 225.84    | 4 473 654 | 18.62        |
| 8-9                                                              | 82 925  | 299   | 3.61         | 52.95     | 82 775 | 276.84    | 4 390 515 | 18.89        |
| 9-10                                                             | 82 626  | 250   | 3.02         | 52.14     | 82 501 | 330.00    | 4 307 770 | 19.18        |
| 10-11                                                            | 82 376  | 218   | 2.65         | 51.29     | 82 267 | 377.37    | 4 225 269 | 19.50        |
| 11-12                                                            | 82 158  | 204   | 2.48         | 50.43     | 82 056 | 402.24    | 4 143 002 | 19.83        |
| 12-13                                                            | 81 954  | 203   | 2.48         | 49.55     | 81 853 | 403.22    | 4 060 946 | 20.16        |
| 13-14                                                            | 81 751  | 217   | 2.65         | 48.67     | 81 613 | 376.24    | 3 979 093 | 20.55        |
| 14-15                                                            | 81 534  | 242   | 2.97         | 47.80     | 81 413 | 336.12    | 3 897 450 | 20.92        |
| 15-16                                                            | 81 292  | 278   | 3.42         | 46.94     | 81 153 | 291.92    | 3 816 037 | 21.30        |
| 16-17                                                            | 81 014  | 322   | 3.98         | 46.10     | 80 853 | 251.10    | 3 734 881 | 21.69        |
| 17-18                                                            | 80 692  | 363   | 4.49         | 45.28     | 80 510 | 221.79    | 3 654 031 | 22.08        |
| 18-19                                                            | 80 329  | 388   | 4.83         | 44.19     | 80 135 | 206.53    | 3 573 521 | 22.48        |
| 19-20                                                            | 79 941  | 404   | 5.05         | 43.70     | 79 739 | 197.37    | 3 493 386 | 22.88        |
| 20-21                                                            | 79 537  | 421   | 5.30         | 42.92     | 79 327 | 188.43    | 3 413 617 | 23.30        |
| 21-22                                                            | 79 116  | 438   | 5.54         | 42.14     | 78 897 | 180.13    | 3 334 320 | 23.73        |
| 22-23                                                            | 78 678  | 453   | 5.76         | 41.38     | 78 451 | 173.18    | 3 255 423 | 24.17        |
| 23-24                                                            | 78 225  | 468   | 5.98         | 40.61     | 77 991 | 166.65    | 3 176 972 | 24.62        |
| 24-25                                                            | 77 757  | 481   | 6.18         | 39.85     | 77 517 | 161.16    | 3 098 981 | 25.09        |
| 25-26                                                            | 77 276  | 493   | 6.38         | 39.10     | 77 030 | 156.25    | 3 021 464 | 25.58        |
| 26-27                                                            | 76 783  | 505   | 6.58         | 38.35     | 76 531 | 151.55    | 2 944 134 | 26.08        |
| 27-28                                                            | 76 278  | 515   | 6.76         | 37.60     | 76 021 | 147.61    | 2 867 903 | 26.60        |
| 28-29                                                            | 75 763  | 523   | 6.91         | 36.85     | 75 501 | 144.36    | 2 791 882 | 27.14        |
| 29-30                                                            | 75 240  | 530   | 7.04         | 36.10     | 74 975 | 141.46    | 2 716 381 | 27.70        |
| 30-31                                                            | 74 710  | 537   | 7.19         | 35.36     | 74 442 | 138.63    | 2 641 406 | 28.28        |
| 31-32                                                            | 74 173  | 544   | 7.33         | 34.61     | 73 901 | 135.85    | 2 566 964 | 28.89        |
| 32-33                                                            | 73 629  | 552   | 7.50         | 33.86     | 73 353 | 132.89    | 2 493 063 | 29.53        |
| 33-34                                                            | 73 077  | 563   | 7.70         | 33.11     | 72 795 | 129.30    | 2 419 710 | 30.20        |
| 34-35                                                            | 72 514  | 574   | 7.92         | 32.36     | 72 227 | 125.83    | 2 346 915 | 30.90        |
| 35-36                                                            | 71 940  | 586   | 8.14         | 31.62     | 71 647 | 122.26    | 2 274 688 | 31.63        |
| 36-37                                                            | 71 354  | 596   | 8.30         | 30.87     | 71 056 | 119.22    | 2 203 041 | 32.39        |
| 37-38                                                            | 70 758  | 609   | 8.61         | 30.13     | 70 453 | 115.69    | 2 131 985 | 33.19        |
| 38-39                                                            | 70 149  | 623   | 8.88         | 29.39     | 69 837 | 112.10    | 2 061 532 | 34.03        |
| 39-40                                                            | 69 526  | 640   | 9.20         | 28.65     | 69 206 | 108.13    | 1 991 695 | 34.90        |
| 40-41                                                            | 68 886  | 659   | 9.57         | 27.91     | 68 556 | 104.03    | 1 922 489 | 35.83        |
| 41-42                                                            | 68 227  | 682   | 10.00        | 27.17     | 67 886 | 99.54     | 1 853 933 | 36.81        |
| 42-43                                                            | 67 545  | 705   | 10.43        | 26.44     | 67 192 | 95.31     | 1 786 047 | 37.82        |
| 43-44                                                            | 66 840  | 723   | 10.82        | 25.72     | 66 479 | 91.95     | 1 718 555 | 38.88        |
| 44-45                                                            | 66 117  | 739   | 11.18        | 24.99     | 65 747 | 88.97     | 1 652 376 | 40.02        |

## THE CITY OF CHICAGO: 1901.

## TABLE 65

REPORTED DEATHS IN 1900 (11,680), IN 1901 (10,968), AND IN 1902 (11,494).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 65 378 | 758   | 11.59        | 24.27     | 64 999 | 85.75     | 1 566 629 | 41.20        |
| 46-47                                                                      | 64 620 | 778   | 12.04        | 23.55     | 64 231 | 82.56     | 1 521 630 | 42.46        |
| 47-48                                                                      | 63 842 | 806   | 12.63        | 22.83     | 63 439 | 78.71     | 1 457 399 | 43.80        |
| 48-49                                                                      | 63 036 | 846   | 13.42        | 22.11     | 62 613 | 74.01     | 1 393 960 | 45.23        |
| 49-50                                                                      | 62 190 | 893   | 14.36        | 21.41     | 61 743 | 69.14     | 1 331 347 | 46.71        |
| 50-51                                                                      | 61 297 | 939   | 15.32        | 20.71     | 60 827 | 64.78     | 1 269 604 | 48.29        |
| 51-52                                                                      | 60 358 | 985   | 16.32        | 20.03     | 59 865 | 60.78     | 1 208 777 | 49.93        |
| 52-53                                                                      | 59 373 | 1 030 | 17.35        | 19.35     | 58 858 | 57.14     | 1 148 912 | 51.68        |
| 53-54                                                                      | 58 343 | 1 077 | 18.46        | 18.68     | 57 804 | 53.67     | 1 090 034 | 53.53        |
| 54-55                                                                      | 57 266 | 1 129 | 19.72        | 18.03     | 56 701 | 50.22     | 1 032 250 | 55.46        |
| 55-56                                                                      | 56 137 | 1 189 | 21.18        | 17.38     | 55 542 | 46.71     | 975 549   | 57.54        |
| 56-57                                                                      | 54 948 | 1 261 | 22.95        | 16.74     | 54 317 | 43.07     | 920 007   | 59.74        |
| 57-58                                                                      | 53 687 | 1 331 | 24.78        | 16.12     | 53 021 | 39.84     | 865 690   | 62.03        |
| 58-59                                                                      | 52 356 | 1 380 | 26.36        | 15.52     | 51 666 | 37.44     | 812 669   | 64.43        |
| 59-60                                                                      | 50 976 | 1 410 | 27.67        | 14.93     | 50 271 | 35.65     | 761 003   | 66.98        |
| 60-61                                                                      | 49 566 | 1 439 | 29.03        | 14.34     | 48 846 | 33.94     | 710 732   | 69.74        |
| 61-62                                                                      | 48 127 | 1 456 | 30.25        | 13.75     | 47 399 | 32.55     | 661 886   | 72.73        |
| 62-63                                                                      | 46 671 | 1 493 | 32.00        | 13.17     | 45 924 | 30.76     | 614 487   | 75.93        |
| 63-64                                                                      | 45 178 | 1 576 | 34.87        | 12.58     | 44 390 | 28.17     | 568 563   | 79.49        |
| 64-65                                                                      | 43 602 | 1 688 | 38.73        | 12.02     | 42 758 | 25.33     | 524 173   | 83.19        |
| 65-66                                                                      | 41 914 | 1 796 | 42.86        | 11.49     | 41 016 | 22.84     | 481 415   | 87.03        |
| 66-67                                                                      | 40 118 | 1 909 | 47.56        | 10.98     | 39 164 | 20.52     | 440 399   | 91.07        |
| 67-68                                                                      | 38 209 | 1 987 | 52.01        | 10.50     | 37 216 | 18.73     | 401 235   | 95.24        |
| 68-69                                                                      | 36 222 | 2 006 | 55.39        | 10.05     | 35 219 | 17.56     | 364 019   | 99.50        |
| 69-70                                                                      | 34 216 | 1 983 | 57.94        | 9.61      | 33 224 | 16.75     | 328 809   | 104.06       |
| 70-71                                                                      | 32 233 | 1 961 | 60.84        | 9.17      | 31 253 | 15.94     | 295 576   | 109.05       |
| 71-72                                                                      | 30 272 | 1 934 | 63.88        | 8.73      | 29 305 | 15.15     | 264 323   | 114.65       |
| 72-73                                                                      | 28 338 | 1 910 | 67.40        | 8.29      | 27 383 | 14.34     | 235 018   | 120.63       |
| 73-74                                                                      | 26 428 | 1 900 | 71.90        | 7.86      | 25 478 | 13.41     | 207 635   | 127.23       |
| 74-75                                                                      | 24 528 | 1 898 | 77.37        | 7.43      | 23 579 | 12.42     | 182 157   | 134.59       |
| 75-76                                                                      | 22 630 | 1 882 | 83.17        | 7.01      | 21 689 | 11.53     | 158 578   | 142.65       |
| 76-77                                                                      | 20 748 | 1 869 | 90.08        | 6.60      | 19 814 | 10.60     | 136 889   | 151.52       |
| 77-78                                                                      | 18 879 | 1 861 | 98.75        | 6.20      | 17 947 | 9.63      | 117 075   | 161.29       |
| 78-79                                                                      | 17 015 | 1 852 | 108.86       | 5.83      | 16 089 | 8.69      | 99 128    | 171.53       |
| 79-80                                                                      | 15 163 | 1 822 | 120.16       | 5.48      | 14 252 | 7.82      | 83 039    | 182.48       |
| 80-81                                                                      | 13 341 | 1 763 | 132.16       | 5.16      | 12 459 | 7.07      | 68 787    | 193.80       |
| 81-82                                                                      | 11 578 | 1 671 | 144.27       | 4.87      | 10 742 | 6.43      | 56 328    | 205.34       |
| 82-83                                                                      | 9 907  | 1 515 | 155.99       | 4.60      | 9 135  | 5.91      | 45 586    | 217.39       |
| 83-84                                                                      | 8 362  | 1 397 | 167.07       | 4.36      | 7 663  | 5.49      | 36 451    | 229.36       |
| 84-85                                                                      | 6 965  | 1 237 | 177.62       | 4.13      | 6 346  | 5.13      | 28 788    | 242.13       |
| 85-86                                                                      | 5 728  | 1 077 | 188.04       | 3.92      | 5 189  | 4.83      | 22 442    | 255.10       |
| 86-87                                                                      | 4 651  | 925   | 198.92       | 3.71      | 4 188  | 4.53      | 17 253    | 269.54       |
| 87-88                                                                      | 3 726  | 786   | 210.81       | 3.51      | 3 333  | 4.24      | 13 065    | 284.90       |
| 88-89                                                                      | 2 940  | 658   | 224.01       | 3.31      | 2 611  | 3.96      | 9 732     | 302.11       |
| 89-90                                                                      | 2 282  | 545   | 238.52       | 3.12      | 2 009  | 3.69      | 7 121     | 320.51       |
| 90-91                                                                      | 1 737  | 441   | 254.11       | 2.94      | 1 517  | 3.44      | 5 112     | 340.14       |
| 91-92                                                                      | 1 296  | 351   | 270.40       | 2.77      | 1 121  | 3.20      | 3 595     | 361.01       |
| 92-93                                                                      | 915    | 271   | 287.07       | 2.62      | 810    | 2.98      | 2 474     | 381.68       |
| 93-94                                                                      | 674    | 205   | 303.98       | 2.47      | 572    | 2.79      | 1 664     | 401.56       |
| 94-95                                                                      | 469    | 151   | 321.25       | 2.33      | 394    | 2.61      | 1 092     | 429.18       |
| 95-96                                                                      | 318    | 108   | 339.20       | 2.20      | 264    | 2.45      | 698       | 454.55       |
| 96-97                                                                      | 210    | 75    | 358.25       | 2.07      | 173    | 2.29      | 434       | 483.09       |
| 97-98                                                                      | 135    | 51    | 378.73       | 1.94      | 109    | 2.14      | 261       | 515.16       |
| 98-99                                                                      | 84     | 34    | 400.82       | 1.83      | 67     | 1.99      | 152       | 549.45       |
| 99-100                                                                     | 50     | 21    | 424.53       | 1.71      | 40     | 1.86      | 85        | 584.80       |
| 100-101                                                                    | 29     | 13    | 449.76       | 1.69      | 23     | 1.79      | 45        | 628.93       |
| 101-102                                                                    | 16     | 8     | 476.41       | 1.49      | 12     | 1.60      | 23        | 671.14       |
| 102-103                                                                    | 8      | 4     | 504.43       | 1.39      | 6      | 1.48      | 11        | 719.42       |
| 103-104                                                                    | 4      | 2     | 534.79       | 1.30      | 3      | 1.37      | 5         | 769.23       |
| 104-105                                                                    | 2      | 1     | 564.63       | 1.21      | 1      | 1.27      | 2         | 826.45       |
| 105-106                                                                    | 1      | 1     | 597.02       | 1.19      | 1      | 1.18      | 1         | 892.86       |

TABLE 66

## LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (1,064,497), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE INTERVAL.                              | Of 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 10 431 | 104.31       | 51.68     | 92 594 | 8.88      | 5 167 992 | 19.35        |
| 1-2                                                              | 89 569  | 2 765  | 30.87        | 56.66     | 87 938 | 31.80     | 5 075 398 | 17.65        |
| 2-3                                                              | 86 804  | 1 270  | 14.63        | 57.46     | 86 131 | 67.82     | 4 987 460 | 17.40        |
| 3-4                                                              | 85 531  | 859    | 10.04        | 57.30     | 85 088 | 99.05     | 4 901 329 | 17.45        |
| 4-5                                                              | 84 675  | 634    | 7.49         | 56.88     | 84 345 | 133.04    | 4 816 241 | 17.58        |
| 5-6                                                              | 84 011  | 482    | 5.73         | 56.30     | 83 800 | 173.86    | 4 731 896 | 17.76        |
| 6-7                                                              | 83 559  | 400    | 4.79         | 55.63     | 83 359 | 208.10    | 4 648 096 | 17.98        |
| 7-8                                                              | 83 159  | 330    | 3.97         | 54.89     | 82 994 | 251.50    | 4 564 737 | 18.22        |
| 8-9                                                              | 82 829  | 272    | 3.29         | 54.11     | 82 693 | 304.02    | 4 481 743 | 18.48        |
| 9-10                                                             | 82 557  | 229    | 2.77         | 53.29     | 82 443 | 360.01    | 4 399 050 | 18.77        |
| 10-11                                                            | 82 328  | 199    | 2.42         | 52.43     | 82 229 | 413.21    | 4 316 607 | 19.07        |
| 11-12                                                            | 82 129  | 185    | 2.25         | 51.56     | 82 037 | 443.44    | 4 234 378 | 19.39        |
| 12-13                                                            | 81 944  | 181    | 2.22         | 50.67     | 81 854 | 452.23    | 4 152 341 | 19.74        |
| 13-14                                                            | 81 763  | 189    | 2.31         | 49.78     | 81 668 | 432.11    | 4 070 487 | 20.09        |
| 14-15                                                            | 81 574  | 204    | 2.50         | 48.90     | 81 472 | 399.37    | 3 988 819 | 20.45        |
| 15-16                                                            | 81 370  | 224    | 2.76         | 48.02     | 81 258 | 362.76    | 3 907 347 | 20.82        |
| 16-17                                                            | 81 146  | 248    | 3.06         | 47.15     | 81 022 | 326.70    | 3 826 089 | 21.21        |
| 17-18                                                            | 80 898  | 274    | 3.38         | 46.29     | 80 761 | 291.75    | 3 745 067 | 21.60        |
| 18-19                                                            | 80 624  | 297    | 3.69         | 45.45     | 80 475 | 270.96    | 3 664 306 | 22.00        |
| 19-20                                                            | 80 327  | 319    | 3.97         | 44.62     | 80 167 | 251.31    | 3 583 831 | 22.41        |
| 20-21                                                            | 80 008  | 341    | 4.26         | 43.79     | 79 838 | 234.13    | 3 503 664 | 22.84        |
| 21-22                                                            | 79 667  | 362    | 4.55         | 42.98     | 79 486 | 219.57    | 3 423 826 | 23.27        |
| 22-23                                                            | 79 305  | 379    | 4.77         | 42.17     | 79 116 | 208.75    | 3 344 340 | 23.71        |
| 23-24                                                            | 78 926  | 388    | 4.92         | 41.37     | 78 732 | 202.92    | 3 265 224 | 24.17        |
| 24-25                                                            | 78 538  | 395    | 5.03         | 40.57     | 78 341 | 198.33    | 3 186 492 | 24.65        |
| 25-26                                                            | 78 143  | 402    | 5.15         | 39.78     | 77 942 | 193.89    | 3 108 151 | 25.14        |
| 26-27                                                            | 77 741  | 410    | 5.27         | 38.98     | 77 536 | 189.11    | 3 030 209 | 25.65        |
| 27-28                                                            | 77 331  | 420    | 5.43         | 38.18     | 77 121 | 183.62    | 2 952 673 | 26.19        |
| 28-29                                                            | 76 911  | 434    | 5.65         | 37.39     | 76 694 | 176.71    | 2 875 552 | 26.75        |
| 29-30                                                            | 76 477  | 452    | 5.91         | 36.60     | 76 251 | 168.70    | 2 798 858 | 27.32        |
| 30-31                                                            | 76 025  | 470    | 6.18         | 35.81     | 75 790 | 161.26    | 2 722 607 | 27.93        |
| 31-32                                                            | 75 555  | 490    | 6.48         | 35.03     | 75 310 | 153.69    | 2 646 817 | 28.55        |
| 32-33                                                            | 75 065  | 510    | 6.79         | 34.26     | 74 810 | 146.69    | 2 571 507 | 29.19        |
| 33-34                                                            | 74 555  | 528    | 7.08         | 33.49     | 74 291 | 140.70    | 2 496 697 | 29.86        |
| 34-35                                                            | 74 027  | 543    | 7.34         | 32.72     | 73 756 | 135.83    | 2 422 406 | 30.56        |
| 35-36                                                            | 73 484  | 559    | 7.61         | 31.96     | 73 204 | 130.96    | 2 348 650 | 31.29        |
| 36-37                                                            | 72 925  | 577    | 7.90         | 31.20     | 72 637 | 125.89    | 2 275 446 | 32.05        |
| 37-38                                                            | 72 348  | 589    | 8.15         | 30.45     | 72 053 | 122.33    | 2 202 809 | 32.84        |
| 38-39                                                            | 71 759  | 600    | 8.35         | 29.69     | 71 459 | 119.10    | 2 130 756 | 33.68        |
| 39-40                                                            | 71 159  | 607    | 8.54         | 28.94     | 70 855 | 116.73    | 2 059 297 | 34.55        |
| 40-41                                                            | 70 552  | 617    | 8.74         | 28.18     | 70 243 | 113.85    | 1 988 442 | 35.49        |
| 41-42                                                            | 69 935  | 624    | 8.92         | 27.43     | 69 623 | 111.58    | 1 918 199 | 36.46        |
| 42-43                                                            | 69 311  | 641    | 9.26         | 26.67     | 68 990 | 107.63    | 1 848 576 | 37.50        |
| 43-44                                                            | 68 670  | 676    | 9.84         | 25.92     | 68 332 | 101.08    | 1 779 586 | 38.58        |
| 44-45                                                            | 67 994  | 719    | 10.58        | 25.17     | 67 634 | 94.07     | 1 711 254 | 39.73        |



## THE CITY OF CHICAGO: 1910.

## TABLE 66.

REPORTED DEATHS IN 1909 (13,425), IN 1910 (14,072), AND IN 1911 (13,584).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 67 275 | 765   | 11.36        | 21.13     | 66 893 | 87.44     | 1 613 620 | 40.93        |
| 46-47                                                                      | 66 510 | 812   | 12.21        | 23.71     | 66 104 | 81.11     | 1 576 727 | 42.18        |
| 47-48                                                                      | 65 698 | 854   | 13.00        | 22.99     | 65 271 | 76.43     | 1 510 623 | 43.50        |
| 48-49                                                                      | 61 844 | 885   | 13.65        | 22.29     | 64 401 | 72.77     | 1 445 352 | 44.86        |
| 49-50                                                                      | 63 959 | 910   | 14.22        | 21.59     | 63 504 | 69.78     | 1 380 951 | 46.32        |
| 50-51                                                                      | 63 049 | 937   | 14.87        | 20.90     | 62 580 | 66.79     | 1 317 447 | 47.85        |
| 51-52                                                                      | 62 112 | 967   | 15.56        | 20.20     | 61 629 | 63.73     | 1 254 867 | 49.50        |
| 52-53                                                                      | 61 145 | 1 003 | 16.41        | 19.51     | 60 644 | 60.46     | 1 193 238 | 51.26        |
| 53-54                                                                      | 60 142 | 1 056 | 17.56        | 18.83     | 59 614 | 56.45     | 1 132 594 | 53.11        |
| 54-55                                                                      | 59 086 | 1 123 | 19.02        | 18.16     | 58 524 | 52.11     | 1 072 980 | 55.07        |
| 55-56                                                                      | 57 963 | 1 200 | 20.69        | 17.50     | 57 363 | 47.80     | 1 014 456 | 57.14        |
| 56-57                                                                      | 56 763 | 1 290 | 22.74        | 16.86     | 56 118 | 43.50     | 957 093   | 59.31        |
| 57-58                                                                      | 55 473 | 1 377 | 24.82        | 16.24     | 54 784 | 39.79     | 900 975   | 61.58        |
| 58-59                                                                      | 54 096 | 1 433 | 26.49        | 15.64     | 53 379 | 37.25     | 846 191   | 63.94        |
| 59-60                                                                      | 52 663 | 1 461 | 27.74        | 15.05     | 51 932 | 35.55     | 792 812   | 66.45        |
| 60-61                                                                      | 51 202 | 1 487 | 29.05        | 14.47     | 50 458 | 33.93     | 740 880   | 69.11        |
| 61-62                                                                      | 49 715 | 1 504 | 30.24        | 13.89     | 48 963 | 32.56     | 690 422   | 71.99        |
| 62-63                                                                      | 48 211 | 1 533 | 31.60        | 13.31     | 47 445 | 30.95     | 641 459   | 75.13        |
| 63-64                                                                      | 46 678 | 1 595 | 34.18        | 12.73     | 45 880 | 28.76     | 594 014   | 78.55        |
| 64-65                                                                      | 45 083 | 1 685 | 37.37        | 12.16     | 44 240 | 26.26     | 548 134   | 82.24        |
| 65-66                                                                      | 43 398 | 1 768 | 40.75        | 11.61     | 42 514 | 24.05     | 503 894   | 86.13        |
| 66-67                                                                      | 41 630 | 1 851 | 44.53        | 11.08     | 40 703 | 21.95     | 461 380   | 90.25        |
| 67-68                                                                      | 39 776 | 1 929 | 48.48        | 10.58     | 38 812 | 20.13     | 420 677   | 94.52        |
| 68-69                                                                      | 37 818 | 1 977 | 52.34        | 10.09     | 36 859 | 18.64     | 381 865   | 99.11        |
| 69-70                                                                      | 35 871 | 2 005 | 55.87        | 9.62      | 34 869 | 17.39     | 345 006   | 103.95       |
| 70-71                                                                      | 33 866 | 2 029 | 59.92        | 9.16      | 32 852 | 16.19     | 310 137   | 109.17       |
| 71-72                                                                      | 31 837 | 2 046 | 64.27        | 8.71      | 30 814 | 15.06     | 277 285   | 114.81       |
| 72-73                                                                      | 29 791 | 2 061 | 69.17        | 8.27      | 28 761 | 13.95     | 246 471   | 120.92       |
| 73-74                                                                      | 27 730 | 2 077 | 74.93        | 7.85      | 26 692 | 12.85     | 217 710   | 127.39       |
| 74-75                                                                      | 25 653 | 2 090 | 81.47        | 7.45      | 24 608 | 11.77     | 191 018   | 134.23       |
| 75-76                                                                      | 23 563 | 2 087 | 88.57        | 7.06      | 22 519 | 10.79     | 166 410   | 141.64       |
| 76-77                                                                      | 21 476 | 2 073 | 96.18        | 6.70      | 20 440 | 9.86      | 143 891   | 149.25       |
| 77-78                                                                      | 19 404 | 2 025 | 104.34       | 6.36      | 18 392 | 9.08      | 123 451   | 157.23       |
| 78-79                                                                      | 17 379 | 1 937 | 111.46       | 6.05      | 16 411 | 8.47      | 105 059   | 165.29       |
| 79-80                                                                      | 15 442 | 1 824 | 118.12       | 5.74      | 14 530 | 7.97      | 88 648    | 174.22       |
| 80-81                                                                      | 13 618 | 1 709 | 125.52       | 5.44      | 12 763 | 7.47      | 74 118    | 183.82       |
| 81-82                                                                      | 11 909 | 1 591 | 133.61       | 5.15      | 11 113 | 6.98      | 61 335    | 194.17       |
| 82-83                                                                      | 10 318 | 1 471 | 142.58       | 4.87      | 9 589  | 6.51      | 50 242    | 205.34       |
| 83-84                                                                      | 8 847  | 1 350 | 152.58       | 4.60      | 8 172  | 6.05      | 40 660    | 217.39       |
| 84-85                                                                      | 7 497  | 1 225 | 163.36       | 4.33      | 6 884  | 5.62      | 32 488    | 230.95       |
| 85-86                                                                      | 6 272  | 1 096 | 174.71       | 4.08      | 5 724  | 5.22      | 25 604    | 245.10       |
| 86-87                                                                      | 5 176  | 965   | 186.57       | 3.84      | 4 693  | 4.86      | 19 880    | 260.42       |
| 87-88                                                                      | 4 211  | 840   | 199.28       | 3.61      | 3 791  | 4.52      | 15 187    | 277.01       |
| 88-89                                                                      | 3 371  | 720   | 213.58       | 3.38      | 3 011  | 4.18      | 11 396    | 295.86       |
| 89-90                                                                      | 2 651  | 609   | 230.00       | 3.16      | 2 346  | 3.85      | 8 385     | 316.46       |
| 90-91                                                                      | 2 042  | 506   | 247.77       | 2.96      | 1 789  | 3.54      | 6 039     | 337.84       |
| 91-92                                                                      | 1 536  | 410   | 266.56       | 2.77      | 1 331  | 3.25      | 4 250     | 361.01       |
| 92-93                                                                      | 1 126  | 321   | 285.39       | 2.59      | 966    | 3.00      | 2 919     | 386.10       |
| 93-94                                                                      | 805    | 245   | 304.88       | 2.43      | 682    | 2.78      | 1 953     | 411.52       |
| 94-95                                                                      | 560    | 182   | 325.07       | 2.27      | 469    | 2.58      | 1 271     | 440.53       |
| 95-96                                                                      | 378    | 131   | 346.10       | 2.13      | 312    | 2.39      | 802       | 469.48       |
| 96-97                                                                      | 247    | 91    | 368.16       | 1.99      | 201    | 2.22      | 490       | 502.51       |
| 97-98                                                                      | 156    | 61    | 391.50       | 1.86      | 125    | 2.05      | 289       | 537.63       |
| 98-99                                                                      | 95     | 40    | 416.32       | 1.74      | 76     | 1.90      | 164       | 574.71       |
| 99-100                                                                     | 55     | 24    | 442.72       | 1.62      | 43     | 1.76      | 89        | 617.28       |
| 100-101                                                                    | 31     | 15    | 470.72       | 1.51      | 24     | 1.62      | 46        | 662.25       |
| 101-102                                                                    | 16     | 8     | 500.25       | 1.40      | 12     | 1.50      | 22        | 714.29       |
| 102-103                                                                    | 8      | 4     | 531.17       | 1.30      | 6      | 1.38      | 10        | 769.23       |
| 103-104                                                                    | 4      | 2     | 563.33       | 1.21      | 3      | 1.28      | 4         | 826.45       |
| 104-105                                                                    | 2      | 1     | 596.81       | 1.12      | 1      | 1.18      | 1         | 892.86       |
| 105-106                                                                    | 1      | 1     | 631.57       | 1.04      | -----  | 1.08      | -----     | 961.54       |

TABLE 67

## LIFE TABLE FOR MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (1,779,796), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 28, and

| AGE<br>INTERVAL.                                    | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 15 673 | 156.73       | 40.65     | 88 715 | 5.66      | 4 065 000 | 24.60        |
| 1-2                                                              | 84 327  | 4 635  | 54.96        | 47.15     | 81 592 | 17.60     | 3 976 285 | 21.21        |
| 2-3                                                              | 79 692  | 1 967  | 24.69        | 48.87     | 78 649 | 39.98     | 3 891 693 | 20.46        |
| 3-4                                                              | 77 725  | 1 257  | 16.17        | 49.10     | 77 071 | 61.31     | 3 816 044 | 20.37        |
| 4-5                                                              | 76 468  | 903    | 11.81        | 48.90     | 75 998 | 81.16     | 3 738 973 | 20.45        |
| 5-6                                                              | 75 565  | 652    | 8.63         | 48.47     | 75 239 | 115.40    | 3 662 975 | 20.63        |
| 6-7                                                              | 74 913  | 529    | 7.06         | 47.89     | 74 618 | 141.11    | 3 587 736 | 20.88        |
| 7-8                                                              | 74 384  | 425    | 5.72         | 47.23     | 74 171 | 174.52    | 3 513 088 | 21.17        |
| 8-9                                                              | 73 959  | 341    | 4.61         | 46.50     | 73 788 | 216.39    | 3 438 917 | 21.51        |
| 9-10                                                             | 73 618  | 276    | 3.75         | 45.71     | 73 480 | 266.23    | 3 365 129 | 21.88        |
| 10-11                                                            | 73 342  | 230    | 3.13         | 44.88     | 73 227 | 318.38    | 3 291 649 | 22.28        |
| 11-12                                                            | 73 112  | 201    | 2.75         | 44.02     | 73 012 | 363.24    | 3 218 422 | 22.72        |
| 12-13                                                            | 72 911  | 189    | 2.60         | 43.14     | 72 817 | 385.28    | 3 145 410 | 23.18        |
| 13-14                                                            | 72 722  | 195    | 2.68         | 42.25     | 72 625 | 372.44    | 3 072 593 | 23.67        |
| 14-15                                                            | 72 527  | 214    | 2.96         | 41.36     | 72 420 | 338.41    | 2 999 968 | 24.18        |
| 15-16                                                            | 72 313  | 249    | 3.44         | 40.48     | 72 188 | 289.91    | 2 927 548 | 24.70        |
| 16-17                                                            | 72 064  | 296    | 4.10         | 39.62     | 71 916 | 242.96    | 2 855 360 | 25.24        |
| 17-18                                                            | 71 768  | 345    | 4.81         | 38.78     | 71 596 | 207.52    | 2 783 444 | 25.79        |
| 18-19                                                            | 71 423  | 391    | 5.48         | 37.97     | 71 227 | 182.17    | 2 711 848 | 26.34        |
| 19-20                                                            | 71 032  | 431    | 6.07         | 37.18     | 70 816 | 164.31    | 2 640 621 | 26.90        |
| 20-21                                                            | 70 601  | 474    | 6.70         | 36.40     | 70 364 | 148.45    | 2 569 805 | 27.47        |
| 21-22                                                            | 70 127  | 515    | 7.35         | 35.61     | 69 870 | 135.67    | 2 499 441 | 28.06        |
| 22-23                                                            | 69 612  | 550    | 7.90         | 34.90     | 69 337 | 126.07    | 2 429 571 | 28.65        |
| 23-24                                                            | 69 062  | 575    | 8.33         | 34.18     | 68 774 | 119.61    | 2 360 234 | 29.26        |
| 24-25                                                            | 68 487  | 596    | 8.70         | 33.46     | 68 189 | 114.41    | 2 291 460 | 29.89        |
| 25-26                                                            | 67 891  | 614    | 9.05         | 32.75     | 67 584 | 110.07    | 2 223 271 | 30.53        |
| 26-27                                                            | 67 277  | 632    | 9.38         | 32.04     | 66 961 | 105.95    | 2 155 687 | 31.21        |
| 27-28                                                            | 66 645  | 652    | 9.79         | 31.34     | 66 319 | 101.72    | 2 088 726 | 31.91        |
| 28-29                                                            | 65 993  | 682    | 10.34        | 30.65     | 65 652 | 96.26     | 2 022 407 | 32.63        |
| 29-30                                                            | 65 311  | 718    | 10.99        | 29.96     | 64 952 | 90.46     | 1 956 755 | 33.38        |
| 30-31                                                            | 64 593  | 753    | 11.66        | 29.29     | 64 217 | 85.28     | 1 891 803 | 34.14        |
| 31-32                                                            | 63 840  | 790    | 12.37        | 28.63     | 63 445 | 80.31     | 1 827 586 | 34.93        |
| 32-33                                                            | 63 050  | 821    | 13.03        | 27.98     | 62 640 | 76.30     | 1 764 111 | 35.74        |
| 33-34                                                            | 62 229  | 843    | 13.55        | 27.34     | 61 808 | 73.32     | 1 701 501 | 36.58        |
| 34-35                                                            | 61 386  | 857    | 13.97        | 26.71     | 60 957 | 71.13     | 1 639 693 | 37.44        |
| 35-36                                                            | 60 529  | 872    | 14.41        | 26.08     | 60 093 | 68.91     | 1 578 736 | 38.34        |
| 36-37                                                            | 59 657  | 886    | 14.85        | 25.46     | 59 214 | 66.83     | 1 518 643 | 39.28        |
| 37-38                                                            | 58 771  | 902    | 15.34        | 24.83     | 58 320 | 64.66     | 1 459 429 | 40.27        |
| 38-39                                                            | 57 869  | 922    | 15.94        | 24.21     | 57 408 | 62.26     | 1 401 109 | 41.31        |
| 39-40                                                            | 56 947  | 947    | 16.62        | 23.60     | 56 474 | 59.63     | 1 343 701 | 42.37        |
| 40-41                                                            | 56 000  | 970    | 17.33        | 22.99     | 55 515 | 57.23     | 1 287 227 | 43.50        |
| 41-42                                                            | 55 030  | 998    | 18.13        | 22.38     | 54 531 | 54.64     | 1 231 712 | 44.68        |
| 42-43                                                            | 54 032  | 1 019  | 18.87        | 21.79     | 53 522 | 52.52     | 1 177 181 | 45.89        |
| 43-44                                                            | 53 013  | 1 033  | 19.49        | 21.20     | 52 496 | 50.82     | 1 123 659 | 47.17        |
| 44-45                                                            | 51 980  | 1 042  | 20.04        | 20.61     | 51 459 | 49.38     | 1 071 163 | 48.52        |

## THE CITY OF NEW YORK: 1901.

## TABLE 67

REPORTED DEATHS IN 1900 (38,029), IN 1901 (38,174), AND IN 1902 (36,899).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 MALES BORN ALIVE:               |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                     | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                   | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                   | $L_x/d_x$                             | $T_x$                                                              | $1000/L_x/T_x$                                                                               |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                       | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 50 938 | 1 053 | 20.68        | 20.02     | 50 411 | 47.87     | 1 019 704 | 49.95        |
| 46-47                                                                      | 49 885 | 1 066 | 21.37        | 19.43     | 49 352 | 46.30     | 969 293   | 51.47        |
| 47-48                                                                      | 48 819 | 1 087 | 22.26        | 18.81     | 48 275 | 44.41     | 919 941   | 53.08        |
| 48-49                                                                      | 47 732 | 1 115 | 23.37        | 18.26     | 47 174 | 42.31     | 871 666   | 54.76        |
| 49-50                                                                      | 46 617 | 1 147 | 24.60        | 17.69     | 46 043 | 40.14     | 824 492   | 56.53        |
| 50-51                                                                      | 45 470 | 1 174 | 25.82        | 17.12     | 44 883 | 38.23     | 778 449   | 58.41        |
| 51-52                                                                      | 44 296 | 1 198 | 27.01        | 16.56     | 43 697 | 36.47     | 733 566   | 60.39        |
| 52-53                                                                      | 43 098 | 1 220 | 28.32        | 16.01     | 42 488 | 34.83     | 689 869   | 62.46        |
| 53-54                                                                      | 41 878 | 1 249 | 29.82        | 15.46     | 41 253 | 33.03     | 647 381   | 64.68        |
| 54-55                                                                      | 40 629 | 1 286 | 31.63        | 14.92     | 39 986 | 31.09     | 606 128   | 67.02        |
| 55-56                                                                      | 39 343 | 1 325 | 33.69        | 14.39     | 38 681 | 29.19     | 566 142   | 69.49        |
| 56-57                                                                      | 38 018 | 1 372 | 36.09        | 13.87     | 37 332 | 27.21     | 527 461   | 72.10        |
| 57-58                                                                      | 36 646 | 1 417 | 38.67        | 13.37     | 35 937 | 25.36     | 490 129   | 74.79        |
| 58-59                                                                      | 35 229 | 1 445 | 41.01        | 12.89     | 34 506 | 23.88     | 454 192   | 77.58        |
| 59-60                                                                      | 33 784 | 1 454 | 43.03        | 12.42     | 33 057 | 22.74     | 419 686   | 80.52        |
| 60-61                                                                      | 32 330 | 1 458 | 45.12        | 11.96     | 31 601 | 21.67     | 386 629   | 83.61        |
| 61-62                                                                      | 30 872 | 1 455 | 47.13        | 11.50     | 30 144 | 20.72     | 355 028   | 86.96        |
| 62-63                                                                      | 29 417 | 1 453 | 49.38        | 11.04     | 28 690 | 19.75     | 324 884   | 90.58        |
| 63-64                                                                      | 27 964 | 1 464 | 52.36        | 10.59     | 27 232 | 18.60     | 296 194   | 94.43        |
| 64-65                                                                      | 26 500 | 1 489 | 56.18        | 10.15     | 25 755 | 17.30     | 268 962   | 98.52        |
| 65-66                                                                      | 25 011 | 1 512 | 60.46        | 9.72      | 24 255 | 16.04     | 243 207   | 102.88       |
| 66-67                                                                      | 23 499 | 1 528 | 65.00        | 9.32      | 22 735 | 14.88     | 218 952   | 107.30       |
| 67-68                                                                      | 21 971 | 1 513 | 68.88        | 8.93      | 21 215 | 14.02     | 196 217   | 111.98       |
| 68-69                                                                      | 20 458 | 1 485 | 72.58        | 8.55      | 19 716 | 13.28     | 175 002   | 116.96       |
| 69-70                                                                      | 18 973 | 1 445 | 76.17        | 8.18      | 18 251 | 12.63     | 155 286   | 122.25       |
| 70-71                                                                      | 17 528 | 1 400 | 79.89        | 7.82      | 16 828 | 12.02     | 137 035   | 127.88       |
| 71-72                                                                      | 16 128 | 1 356 | 84.07        | 7.45      | 15 450 | 11.39     | 120 207   | 134.23       |
| 72-73                                                                      | 14 772 | 1 316 | 89.07        | 7.09      | 14 114 | 10.72     | 104 757   | 141.04       |
| 73-74                                                                      | 13 456 | 1 280 | 95.13        | 6.74      | 12 816 | 10.01     | 90 643    | 148.37       |
| 74-75                                                                      | 12 176 | 1 245 | 102.30       | 6.39      | 11 553 | 9.28      | 77 827    | 156.49       |
| 75-76                                                                      | 10 931 | 1 207 | 110.42       | 6.06      | 10 327 | 8.56      | 66 274    | 165.02       |
| 76-77                                                                      | 9 724  | 1 159 | 119.16       | 5.75      | 9 144  | 7.89      | 55 947    | 173.91       |
| 77-78                                                                      | 8 565  | 1 098 | 128.16       | 5.46      | 8 016  | 7.30      | 46 803    | 183.15       |
| 78-79                                                                      | 7 467  | 1 024 | 137.12       | 5.19      | 6 953  | 6.79      | 38 787    | 192.68       |
| 79-80                                                                      | 6 443  | 940   | 145.92       | 4.94      | 5 973  | 6.35      | 31 832    | 202.43       |
| 80-81                                                                      | 5 503  | 851   | 154.62       | 4.70      | 5 078  | 5.97      | 25 859    | 212.77       |
| 81-82                                                                      | 4 652  | 760   | 163.45       | 4.47      | 4 272  | 5.62      | 20 781    | 223.71       |
| 82-83                                                                      | 3 892  | 673   | 172.77       | 4.24      | 3 558  | 5.29      | 16 509    | 235.85       |
| 83-84                                                                      | 3 219  | 588   | 182.88       | 4.02      | 2 925  | 4.97      | 12 953    | 248.76       |
| 84-85                                                                      | 2 631  | 511   | 193.95       | 3.81      | 2 376  | 4.66      | 10 028    | 262.47       |
| 85-86                                                                      | 2 120  | 436   | 206.01       | 3.61      | 1 902  | 4.35      | 7 652     | 277.01       |
| 86-87                                                                      | 1 684  | 369   | 218.91       | 3.42      | 1 499  | 4.07      | 5 750     | 292.40       |
| 87-88                                                                      | 1 315  | 306   | 232.50       | 3.23      | 1 162  | 3.80      | 4 251     | 309.60       |
| 88-89                                                                      | 1 009  | 249   | 246.49       | 3.06      | 885    | 3.56      | 3 089     | 326.80       |
| 89-90                                                                      | 760    | 198   | 260.81       | 2.90      | 661    | 3.33      | 2 204     | 344.83       |
| 90-91                                                                      | 562    | 155   | 275.48       | 2.74      | 485    | 3.13      | 1 543     | 364.96       |
| 91-92                                                                      | 407    | 118   | 290.63       | 2.60      | 348    | 2.94      | 1 058     | 384.62       |
| 92-93                                                                      | 289    | 89    | 306.42       | 2.46      | 245    | 2.76      | 710       | 406.50       |
| 93-94                                                                      | 200    | 64    | 323.06       | 2.32      | 168    | 2.60      | 463       | 431.03       |
| 94-95                                                                      | 136    | 47    | 340.73       | 2.19      | 113    | 2.43      | 297       | 456.62       |
| 95-96                                                                      | 89     | 32    | 359.57       | 2.07      | 73     | 2.28      | 184       | 483.09       |
| 96-97                                                                      | 57     | 21    | 379.61       | 1.95      | 46     | 2.13      | 111       | 512.82       |
| 97-98                                                                      | 36     | 15    | 400.87       | 1.83      | 28     | 1.99      | 65        | 546.45       |
| 98-99                                                                      | 21     | 9     | 423.32       | 1.72      | 17     | 1.86      | 37        | 581.40       |
| 99-100                                                                     | 12     | 5     | 446.94       | 1.61      | 10     | 1.74      | 20        | 621.12       |
| 100-101                                                                    | 7      | 3     | 471.74       | 1.51      | 5      | 1.62      | 10        | 662.25       |
| 101-102                                                                    | 4      | 2     | 497.71       | 1.43      | 3      | 1.51      | 5         | 704.23       |
| 102-103                                                                    | 2      | 1     | 524.96       | 1.33      | 1      | 1.40      | 2         | 751.88       |
| 103-104                                                                    | 1      | 1     | 553.54       | 1.24      | 1      | 1.31      | 1         | 806.45       |

TABLE 68

## LIFE TABLE FOR MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (2,396,502), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE<br>INTERVAL.                                    | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 13 186 | 131.86       | 45.30     | 90 506 | 6.86      | 4 530 257 | 22.08        |
| 1-2                                                              | 86 811  | 3 613  | 41.61        | 51.14     | 84 682 | 23.44     | 4 439 751 | 19.55        |
| 2-3                                                              | 83 201  | 1 602  | 19.25        | 52.34     | 82 352 | 51.41     | 4 355 069 | 19.11        |
| 3-4                                                              | 81 599  | 890    | 10.92        | 52.36     | 81 136 | 91.16     | 4 272 717 | 19.10        |
| 4-5                                                              | 80 709  | 616    | 7.63         | 51.93     | 80 389 | 130.50    | 4 191 581 | 19.26        |
| 5-6                                                              | 80 093  | 489    | 6.12         | 51.33     | 79 818 | 163.29    | 4 111 192 | 19.18        |
| 6-7                                                              | 79 601  | 390    | 4.89         | 50.64     | 79 409 | 203.61    | 4 031 341 | 19.75        |
| 7-8                                                              | 79 214  | 311    | 3.92         | 49.89     | 79 059 | 254.21    | 3 951 935 | 20.01        |
| 8-9                                                              | 78 903  | 251    | 3.18         | 49.08     | 78 778 | 313.86    | 3 872 876 | 20.37        |
| 9-10                                                             | 78 652  | 209    | 2.66         | 48.24     | 78 548 | 375.83    | 3 794 098 | 20.73        |
| 10-11                                                            | 78 443  | 183    | 2.33         | 47.37     | 78 352 | 428.15    | 3 715 550 | 21.11        |
| 11-12                                                            | 78 260  | 171    | 2.19         | 46.48     | 78 174 | 457.16    | 3 637 198 | 21.51        |
| 12-13                                                            | 78 089  | 173    | 2.21         | 45.58     | 78 002 | 450.88    | 3 559 024 | 21.94        |
| 13-14                                                            | 77 916  | 184    | 2.37         | 44.68     | 77 821 | 422.96    | 3 481 022 | 22.38        |
| 14-15                                                            | 77 732  | 205    | 2.64         | 43.78     | 77 630 | 378.68    | 3 403 198 | 22.84        |
| 15-16                                                            | 77 527  | 234    | 3.02         | 42.90     | 77 410 | 330.81    | 3 325 568 | 23.31        |
| 16-17                                                            | 77 293  | 271    | 3.51         | 42.02     | 77 157 | 281.71    | 3 248 158 | 23.80        |
| 17-18                                                            | 77 022  | 305    | 3.96         | 41.17     | 76 870 | 252.03    | 3 171 001 | 24.29        |
| 18-19                                                            | 76 717  | 328    | 4.28         | 40.33     | 76 553 | 231.39    | 3 094 131 | 24.80        |
| 19-20                                                            | 76 389  | 341    | 4.51         | 39.50     | 76 217 | 221.56    | 3 017 578 | 25.32        |
| 20-21                                                            | 76 015  | 363    | 4.78         | 38.68     | 75 863 | 208.99    | 2 941 361 | 25.85        |
| 21-22                                                            | 75 682  | 383    | 5.06         | 37.86     | 75 491 | 197.10    | 2 865 498 | 26.41        |
| 22-23                                                            | 75 299  | 400    | 5.32         | 37.05     | 75 099 | 187.75    | 2 790 007 | 26.99        |
| 23-24                                                            | 74 899  | 418    | 5.58         | 36.25     | 74 690 | 178.68    | 2 714 908 | 27.59        |
| 24-25                                                            | 74 481  | 435    | 5.84         | 35.45     | 74 261 | 170.72    | 2 640 218 | 28.21        |
| 25-26                                                            | 74 016  | 452    | 6.11         | 34.65     | 73 820 | 163.32    | 2 565 954 | 28.86        |
| 26-27                                                            | 73 594  | 470    | 6.39         | 33.86     | 73 359 | 156.08    | 2 492 134 | 29.53        |
| 27-28                                                            | 73 124  | 491    | 6.72         | 33.08     | 72 879 | 148.43    | 2 418 775 | 30.23        |
| 28-29                                                            | 72 633  | 519    | 7.15         | 32.30     | 72 373 | 139.45    | 2 345 896 | 30.96        |
| 29-30                                                            | 72 114  | 553    | 7.67         | 31.53     | 71 837 | 129.90    | 2 273 523 | 31.72        |
| 30-31                                                            | 71 561  | 588    | 8.22         | 30.77     | 71 267 | 121.20    | 2 201 686 | 32.50        |
| 31-32                                                            | 70 973  | 626    | 8.82         | 30.02     | 70 660 | 112.88    | 2 130 419 | 33.31        |
| 32-33                                                            | 70 347  | 667    | 9.48         | 29.28     | 70 013 | 101.97    | 2 059 759 | 34.15        |
| 33-34                                                            | 69 680  | 707    | 10.15        | 28.56     | 69 326 | 98.06     | 1 989 746 | 35.01        |
| 34-35                                                            | 68 973  | 746    | 10.81        | 27.84     | 68 600 | 91.96     | 1 920 420 | 35.92        |
| 35-36                                                            | 68 227  | 785    | 11.51        | 27.14     | 67 834 | 86.41     | 1 851 820 | 36.85        |
| 36-37                                                            | 67 442  | 824    | 12.23        | 26.45     | 67 030 | 81.35     | 1 783 986 | 37.81        |
| 37-38                                                            | 66 618  | 860    | 12.91        | 25.77     | 66 188 | 76.96     | 1 716 956 | 38.80        |
| 38-39                                                            | 65 758  | 890    | 13.53        | 25.10     | 65 313 | 73.39     | 1 650 768 | 39.84        |
| 39-40                                                            | 64 868  | 918    | 14.14        | 24.44     | 64 409 | 70.16     | 1 585 455 | 40.92        |
| 40-41                                                            | 63 950  | 945    | 14.79        | 23.78     | 63 477 | 67.17     | 1 521 046 | 42.05        |
| 41-42                                                            | 63 005  | 974    | 15.46        | 23.13     | 62 518 | 64.19     | 1 457 569 | 43.23        |
| 42-43                                                            | 62 031  | 1 001  | 16.18        | 22.49     | 61 529 | 61.28     | 1 395 051 | 44.46        |
| 43-44                                                            | 61 027  | 1 031  | 16.95        | 21.85     | 60 510 | 58.52     | 1 333 522 | 45.77        |
| 44-45                                                            | 59 993  | 1 066  | 17.77        | 21.22     | 59 460 | 55.78     | 1 273 012 | 47.13        |

## THE CITY OF NEW YORK: 1910.

## TABLE 68

REPORTED DEATHS IN 1909 (40,388), IN 1910 (41,763), AND IN 1911 (41,118).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE<br>INTERVAL. | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                  |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
|                  | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 58 927 | 1 097 | 18.63        | 20.59     | 58 378 | 53.22     | 1 213 552 | 48.57        |
| 46-47                                                                      | 57 830 | 1 130 | 19.53        | 19.98     | 57 265 | 50.68     | 1 155 174 | 50.05        |
| 47-48                                                                      | 56 700 | 1 163 | 20.50        | 19.36     | 56 119 | 48.25     | 1 097 909 | 51.65        |
| 48-49                                                                      | 55 537 | 1 195 | 21.52        | 18.76     | 54 940 | 45.97     | 1 041 790 | 53.30        |
| 49-50                                                                      | 54 342 | 1 227 | 22.58        | 18.16     | 53 729 | 43.79     | 986 850   | 55.07        |
| 50-51                                                                      | 53 115 | 1 258 | 23.70        | 17.57     | 52 486 | 41.72     | 933 121   | 56.92        |
| 51-52                                                                      | 51 857 | 1 290 | 24.87        | 16.98     | 51 212 | 39.70     | 880 635   | 58.89        |
| 52-53                                                                      | 50 567 | 1 321 | 26.13        | 16.40     | 49 907 | 37.78     | 829 423   | 60.98        |
| 53-54                                                                      | 49 246 | 1 357 | 27.56        | 15.83     | 48 568 | 35.79     | 779 516   | 63.17        |
| 54-55                                                                      | 47 889 | 1 402 | 29.28        | 15.26     | 47 188 | 33.66     | 730 948   | 65.53        |
| 55-56                                                                      | 46 487 | 1 455 | 31.29        | 14.71     | 45 759 | 31.45     | 683 760   | 67.98        |
| 56-57                                                                      | 45 032 | 1 517 | 33.70        | 14.17     | 44 273 | 29.18     | 638 001   | 70.57        |
| 57-58                                                                      | 43 515 | 1 589 | 36.51        | 13.64     | 42 720 | 26.88     | 593 728   | 73.31        |
| 58-59                                                                      | 41 924 | 1 651 | 39.38        | 13.14     | 41 100 | 24.89     | 551 008   | 76.10        |
| 59-60                                                                      | 40 275 | 1 694 | 42.06        | 12.66     | 39 428 | 23.28     | 509 908   | 78.99        |
| 60-61                                                                      | 38 581 | 1 730 | 44.82        | 12.19     | 37 716 | 21.80     | 470 480   | 82.03        |
| 61-62                                                                      | 36 851 | 1 752 | 47.56        | 11.74     | 35 975 | 20.53     | 432 764   | 85.18        |
| 62-63                                                                      | 35 099 | 1 761 | 50.24        | 11.30     | 34 217 | 19.40     | 396 789   | 88.50        |
| 63-64                                                                      | 33 335 | 1 769 | 53.08        | 10.88     | 32 451 | 18.34     | 362 572   | 91.91        |
| 64-65                                                                      | 31 566 | 1 774 | 56.19        | 10.46     | 30 679 | 17.29     | 330 121   | 95.60        |
| 65-66                                                                      | 29 792 | 1 769 | 59.39        | 10.05     | 28 907 | 16.34     | 299 442   | 99.50        |
| 66-67                                                                      | 28 023 | 1 757 | 62.69        | 9.65      | 27 144 | 15.45     | 270 535   | 103.63       |
| 67-68                                                                      | 26 266 | 1 739 | 66.19        | 9.27      | 25 397 | 14.60     | 243 391   | 107.87       |
| 68-69                                                                      | 24 527 | 1 713 | 69.88        | 8.89      | 23 671 | 13.82     | 217 994   | 112.49       |
| 69-70                                                                      | 22 814 | 1 682 | 73.71        | 8.52      | 21 973 | 13.06     | 194 323   | 117.37       |
| 70-71                                                                      | 21 132 | 1 643 | 77.75        | 8.16      | 20 311 | 12.36     | 172 350   | 122.55       |
| 71-72                                                                      | 19 489 | 1 599 | 82.06        | 7.80      | 18 689 | 11.69     | 152 039   | 128.21       |
| 72-73                                                                      | 17 890 | 1 558 | 87.08        | 7.45      | 17 111 | 10.98     | 133 350   | 134.23       |
| 73-74                                                                      | 16 332 | 1 513 | 92.66        | 7.12      | 15 575 | 10.29     | 116 239   | 140.45       |
| 74-75                                                                      | 14 819 | 1 464 | 98.76        | 6.79      | 14 087 | 9.62      | 100 664   | 147.28       |
| 75-76                                                                      | 13 355 | 1 406 | 105.27       | 6.48      | 12 652 | 9.00      | 86 577    | 154.32       |
| 76-77                                                                      | 11 949 | 1 338 | 112.02       | 6.19      | 11 280 | 8.43      | 73 925    | 161.55       |
| 77-78                                                                      | 10 611 | 1 262 | 118.87       | 5.90      | 9 980  | 7.91      | 62 615    | 169.49       |
| 78-79                                                                      | 9 349  | 1 175 | 125.74       | 5.63      | 8 762  | 7.46      | 52 665    | 177.62       |
| 79-80                                                                      | 8 174  | 1 085 | 132.67       | 5.37      | 7 632  | 7.03      | 43 903    | 186.22       |
| 80-81                                                                      | 7 089  | 991   | 139.82       | 5.12      | 6 594  | 6.65      | 36 271    | 195.31       |
| 81-82                                                                      | 6 098  | 899   | 147.42       | 4.87      | 5 619  | 6.28      | 29 677    | 205.34       |
| 82-83                                                                      | 5 199  | 809   | 155.71       | 4.62      | 4 794  | 5.92      | 24 028    | 216.15       |
| 83-84                                                                      | 4 390  | 724   | 164.87       | 4.38      | 4 028  | 5.57      | 19 234    | 228.31       |
| 84-85                                                                      | 3 666  | 642   | 175.02       | 4.15      | 3 345  | 5.21      | 15 206    | 240.96       |
| 85-86                                                                      | 3 024  | 563   | 186.18       | 3.92      | 2 743  | 4.87      | 11 861    | 255.10       |
| 86-87                                                                      | 2 461  | 488   | 198.26       | 3.70      | 2 217  | 4.54      | 9 118     | 270.27       |
| 87-88                                                                      | 1 973  | 416   | 211.16       | 3.50      | 1 765  | 4.24      | 6 901     | 285.71       |
| 88-89                                                                      | 1 557  | 350   | 224.80       | 3.30      | 1 382  | 3.95      | 5 136     | 303.03       |
| 89-90                                                                      | 1 207  | 289   | 239.15       | 3.11      | 1 062  | 3.68      | 3 764     | 321.54       |
| 90-91                                                                      | 918    | 233   | 254.26       | 2.93      | 801    | 3.43      | 2 692     | 341.30       |
| 91-92                                                                      | 685    | 185   | 270.19       | 2.76      | 592    | 3.20      | 1 891     | 362.32       |
| 92-93                                                                      | 500    | 144   | 287.02       | 2.60      | 428    | 2.98      | 1 299     | 384.62       |
| 93-94                                                                      | 356    | 108   | 304.82       | 2.44      | 302    | 2.78      | 871       | 409.84       |
| 94-95                                                                      | 248    | 80    | 323.64       | 2.30      | 208    | 2.59      | 569       | 434.78       |
| 95-96                                                                      | 168    | 58    | 343.52       | 2.16      | 139    | 2.41      | 361       | 462.96       |
| 96-97                                                                      | 110    | 40    | 364.49       | 2.02      | 90     | 2.24      | 222       | 495.05       |
| 97-98                                                                      | 70     | 27    | 386.60       | 1.90      | 56     | 2.09      | 132       | 526.32       |
| 98-99                                                                      | 43     | 18    | 409.91       | 1.77      | 34     | 1.94      | 76        | 564.97       |
| 99-100                                                                     | 25     | 11    | 434.46       | 1.66      | 20     | 1.80      | 42        | 602.41       |
| 100-101                                                                    | 14     | 6     | 460.28       | 1.55      | 11     | 1.67      | 29        | 645.16       |
| 101-102                                                                    | 8      | 4     | 487.43       | 1.45      | 6      | 1.55      | 11        | 689.66       |
| 102-103                                                                    | 4      | 2     | 515.95       | 1.35      | 3      | 1.44      | 5         | 740.74       |
| 103-104                                                                    | 2      | 1     | 545.87       | 1.26      | 1      | 1.33      | 2         | 793.65       |
| 104-105                                                                    | 1      | 1     | 577.22       | 1.17      | 1      | 1.23      | 1         | 854.70       |

TABLE 69

## LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (1,803,278), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE<br>INTERVAL.                                    | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 13 298 | 132.98       | 44.86     | 90 558 | 6.81      | 4 486 189 | 22.29        |
| 1-2                                                              | 86 702  | 4 266  | 49.20        | 50.70     | 84 185 | 19.73     | 4 395 631 | 19.72        |
| 2-3                                                              | 82 436  | 1 892  | 22.95        | 52.30     | 81 433 | 43.04     | 4 311 446 | 19.12        |
| 3-4                                                              | 80 544  | 1 187  | 14.71        | 52.52     | 79 926 | 67.33     | 4 230 013 | 19.04        |
| 4-5                                                              | 79 357  | 899    | 11.32        | 52.30     | 78 889 | 87.75     | 4 150 087 | 19.12        |
| 5-6                                                              | 78 458  | 673    | 8.58         | 51.89     | 78 121 | 116.08    | 4 071 198 | 19.27        |
| 6-7                                                              | 77 785  | 502    | 6.45         | 51.33     | 77 531 | 154.45    | 3 993 077 | 19.48        |
| 7-8                                                              | 77 283  | 375    | 4.86         | 50.66     | 77 095 | 205.59    | 3 915 543 | 19.74        |
| 8-9                                                              | 76 908  | 288    | 3.74         | 49.91     | 76 761 | 266.54    | 3 838 448 | 20.04        |
| 9-10                                                             | 76 620  | 232    | 3.02         | 49.10     | 76 504 | 329.76    | 3 761 684 | 20.37        |
| 10-11                                                            | 76 388  | 201    | 2.63         | 48.24     | 76 288 | 379.54    | 3 685 180 | 20.73        |
| 11-12                                                            | 76 187  | 190    | 2.49         | 47.37     | 76 092 | 400.48    | 3 608 892 | 21.11        |
| 12-13                                                            | 75 997  | 192    | 2.54         | 46.49     | 75 901 | 395.32    | 3 532 800 | 21.51        |
| 13-14                                                            | 75 805  | 205    | 2.69         | 45.60     | 75 703 | 369.28    | 3 456 899 | 21.93        |
| 14-15                                                            | 75 600  | 218    | 2.88         | 44.72     | 75 491 | 346.29    | 3 381 196 | 22.36        |
| 15-16                                                            | 75 382  | 241    | 3.20         | 43.85     | 75 262 | 312.29    | 3 305 705 | 22.81        |
| 16-17                                                            | 75 141  | 272    | 3.62         | 42.99     | 75 005 | 275.75    | 3 230 443 | 23.26        |
| 17-18                                                            | 74 869  | 305    | 4.09         | 42.15     | 74 717 | 244.97    | 3 155 438 | 23.72        |
| 18-19                                                            | 74 561  | 341    | 4.57         | 41.32     | 74 393 | 218.16    | 3 080 721 | 24.20        |
| 19-20                                                            | 74 223  | 374    | 5.04         | 40.50     | 74 036 | 197.96    | 3 006 328 | 24.69        |
| 20-21                                                            | 73 849  | 407    | 5.51         | 39.71     | 73 646 | 180.95    | 2 932 292 | 25.16        |
| 21-22                                                            | 73 442  | 437    | 5.96         | 38.92     | 73 224 | 167.56    | 2 858 646 | 25.69        |
| 22-23                                                            | 73 005  | 466    | 6.38         | 38.15     | 72 772 | 156.16    | 2 785 422 | 26.21        |
| 23-24                                                            | 72 539  | 492    | 6.78         | 37.40     | 72 293 | 146.94    | 2 712 650 | 26.74        |
| 24-25                                                            | 72 047  | 517    | 7.19         | 36.65     | 71 788 | 138.85    | 2 640 357 | 27.29        |
| 25-26                                                            | 71 530  | 544    | 7.60         | 35.91     | 71 258 | 130.99    | 2 568 563 | 27.85        |
| 26-27                                                            | 70 986  | 571    | 8.03         | 35.18     | 70 701 | 123.82    | 2 497 311 | 28.43        |
| 27-28                                                            | 70 415  | 593    | 8.43         | 34.46     | 70 119 | 118.24    | 2 426 610 | 29.02        |
| 28-29                                                            | 69 822  | 613    | 8.78         | 33.75     | 69 515 | 113.10    | 2 356 491 | 29.63        |
| 29-30                                                            | 69 209  | 629    | 9.09         | 33.04     | 68 894 | 109.53    | 2 286 976 | 30.27        |
| 30-31                                                            | 68 580  | 647    | 9.43         | 32.34     | 68 256 | 105.50    | 2 218 082 | 30.92        |
| 31-32                                                            | 67 933  | 665    | 9.79         | 31.65     | 67 603 | 101.65    | 2 149 826 | 31.60        |
| 32-33                                                            | 67 268  | 682    | 10.14        | 30.95     | 66 927 | 98.13     | 2 082 226 | 32.31        |
| 33-34                                                            | 66 586  | 695    | 10.43        | 30.27     | 66 238 | 95.31     | 2 015 299 | 33.04        |
| 34-35                                                            | 65 891  | 704    | 10.68        | 29.58     | 65 539 | 93.10     | 1 949 061 | 33.81        |
| 35-36                                                            | 65 187  | 711    | 10.92        | 28.89     | 64 831 | 91.18     | 1 883 522 | 34.61        |
| 36-37                                                            | 64 476  | 719    | 11.14        | 28.21     | 64 116 | 89.17     | 1 818 691 | 35.45        |
| 37-38                                                            | 63 757  | 727    | 11.40        | 27.52     | 63 394 | 87.30     | 1 754 575 | 36.34        |
| 38-39                                                            | 63 030  | 742    | 11.77        | 26.83     | 62 659 | 84.45     | 1 691 181 | 37.27        |
| 39-40                                                            | 62 288  | 762    | 12.24        | 26.15     | 61 907 | 81.24     | 1 628 522 | 38.24        |
| 40-41                                                            | 61 526  | 781    | 12.74        | 25.46     | 61 134 | 77.98     | 1 566 615 | 39.28        |
| 41-42                                                            | 60 742  | 810    | 13.34        | 24.78     | 60 337 | 74.49     | 1 505 481 | 40.36        |
| 42-43                                                            | 59 932  | 843    | 13.89        | 24.11     | 59 515 | 71.45     | 1 445 144 | 41.48        |
| 43-44                                                            | 59 099  | 843    | 14.27        | 23.45     | 58 678 | 69.61     | 1 385 629 | 42.64        |
| 44-45                                                            | 58 256  | 847    | 14.55        | 22.78     | 57 832 | 68.28     | 1 326 951 | 43.90        |



## THE CITY OF NEW YORK: 1901.

## TABLE 69

REPORTED DEATHS IN 1900 (32,838), IN 1901 (32,434), AND IN 1902 (31,087).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $L_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 57 409 | 855   | 14.88        | 22.11     | 56 981 | 66.64     | 1 249 119 | 45.23        |
| 46-47                                                                      | 56 554 | 861   | 15.22        | 21.43     | 56 124 | 65.18     | 1 212 138 | 46.66        |
| 47-48                                                                      | 55 693 | 881   | 15.82        | 20.76     | 55 253 | 62.72     | 1 156 014 | 48.17        |
| 48-49                                                                      | 54 812 | 922   | 16.84        | 20.08     | 54 351 | 58.95     | 1 100 761 | 49.80        |
| 49-50                                                                      | 53 890 | 979   | 18.16        | 19.42     | 53 400 | 54.55     | 1 046 410 | 51.49        |
| 50-51                                                                      | 52 911 | 1 031 | 19.49        | 18.77     | 52 395 | 50.82     | 993 010   | 53.28        |
| 51-52                                                                      | 51 880 | 1 084 | 20.89        | 18.13     | 51 339 | 47.36     | 940 615   | 55.16        |
| 52-53                                                                      | 50 796 | 1 133 | 22.30        | 17.51     | 50 230 | 44.33     | 889 277   | 57.11        |
| 53-54                                                                      | 49 663 | 1 179 | 23.74        | 16.89     | 49 074 | 41.62     | 839 047   | 59.21        |
| 54-55                                                                      | 48 484 | 1 229 | 25.35        | 16.29     | 47 870 | 38.95     | 789 973   | 61.39        |
| 55-56                                                                      | 47 255 | 1 286 | 27.21        | 15.70     | 46 612 | 36.25     | 742 103   | 63.69        |
| 56-57                                                                      | 45 969 | 1 351 | 29.38        | 15.13     | 45 294 | 33.53     | 695 491   | 66.09        |
| 57-58                                                                      | 44 618 | 1 416 | 31.75        | 14.57     | 43 910 | 31.01     | 650 197   | 68.63        |
| 58-59                                                                      | 43 202 | 1 469 | 33.99        | 14.03     | 42 467 | 28.91     | 606 287   | 71.28        |
| 59-60                                                                      | 41 733 | 1 501 | 35.98        | 13.51     | 40 982 | 27.30     | 563 820   | 74.02        |
| 60-61                                                                      | 40 232 | 1 528 | 37.98        | 13.00     | 39 468 | 25.83     | 522 838   | 76.92        |
| 61-62                                                                      | 38 701 | 1 544 | 39.89        | 12.49     | 37 932 | 24.57     | 483 370   | 80.06        |
| 62-63                                                                      | 37 160 | 1 558 | 41.92        | 11.99     | 36 381 | 23.35     | 445 438   | 83.40        |
| 63-64                                                                      | 35 602 | 1 581 | 44.12        | 11.49     | 34 811 | 22.03     | 409 057   | 87.03        |
| 64-65                                                                      | 34 021 | 1 618 | 47.56        | 11.00     | 33 212 | 20.52     | 374 246   | 90.91        |
| 65-66                                                                      | 32 403 | 1 653 | 51.01        | 10.52     | 31 576 | 19.10     | 341 034   | 95.06        |
| 66-67                                                                      | 30 750 | 1 693 | 55.02        | 10.06     | 29 904 | 17.67     | 309 458   | 99.40        |
| 67-68                                                                      | 29 058 | 1 727 | 59.12        | 9.62      | 28 194 | 16.33     | 279 554   | 103.95       |
| 68-69                                                                      | 27 331 | 1 738 | 63.62        | 9.20      | 26 462 | 15.23     | 251 360   | 108.70       |
| 69-70                                                                      | 25 593 | 1 726 | 67.43        | 8.79      | 24 730 | 14.33     | 224 898   | 113.77       |
| 70-71                                                                      | 23 867 | 1 707 | 71.52        | 8.39      | 23 013 | 13.48     | 200 168   | 119.19       |
| 71-72                                                                      | 22 160 | 1 677 | 75.69        | 7.99      | 21 321 | 12.71     | 177 155   | 125.16       |
| 72-73                                                                      | 20 483 | 1 654 | 80.73        | 7.61      | 19 656 | 11.88     | 155 834   | 131.41       |
| 73-74                                                                      | 18 829 | 1 625 | 86.31        | 7.23      | 18 016 | 11.09     | 136 178   | 138.31       |
| 74-75                                                                      | 17 204 | 1 591 | 92.50        | 6.87      | 16 408 | 10.31     | 118 162   | 145.56       |
| 75-76                                                                      | 15 613 | 1 551 | 99.30        | 6.52      | 14 837 | 9.57      | 101 754   | 153.37       |
| 76-77                                                                      | 14 062 | 1 499 | 106.65       | 6.18      | 13 313 | 8.88      | 86 917    | 161.81       |
| 77-78                                                                      | 12 563 | 1 439 | 114.50       | 5.86      | 11 843 | 8.23      | 73 605    | 170.65       |
| 78-79                                                                      | 11 124 | 1 365 | 122.77       | 5.55      | 10 441 | 7.65      | 61 763    | 180.18       |
| 79-80                                                                      | 9 759  | 1 283 | 131.44       | 5.26      | 9 117  | 7.11      | 51 321    | 190.11       |
| 80-81                                                                      | 8 476  | 1 192 | 140.57       | 4.98      | 7 880  | 6.61      | 42 204    | 200.40       |
| 81-82                                                                      | 7 284  | 1 094 | 150.23       | 4.71      | 6 737  | 6.16      | 34 324    | 212.31       |
| 82-83                                                                      | 6 190  | 994   | 160.53       | 4.46      | 5 693  | 5.73      | 27 587    | 224.22       |
| 83-84                                                                      | 5 196  | 891   | 171.51       | 4.21      | 4 751  | 5.33      | 21 894    | 237.53       |
| 84-85                                                                      | 4 305  | 788   | 183.18       | 3.98      | 3 911  | 4.96      | 17 143    | 251.26       |
| 85-86                                                                      | 3 517  | 688   | 195.48       | 3.76      | 3 173  | 4.62      | 13 232    | 263.96       |
| 86-87                                                                      | 2 829  | 589   | 208.34       | 3.56      | 2 534  | 4.30      | 10 059    | 280.90       |
| 87-88                                                                      | 2 240  | 497   | 221.68       | 3.36      | 1 991  | 4.01      | 7 525     | 297.62       |
| 88-89                                                                      | 1 743  | 410   | 235.50       | 3.18      | 1 538  | 3.75      | 5 531     | 314.17       |
| 89-90                                                                      | 1 333  | 333   | 249.83       | 3.00      | 1 166  | 3.50      | 3 996     | 333.33       |
| 90-91                                                                      | 1 000  | 265   | 264.78       | 2.83      | 867    | 3.28      | 2 830     | 353.36       |
| 91-92                                                                      | 735    | 206   | 280.46       | 2.67      | 632    | 3.07      | 1 963     | 374.53       |
| 92-93                                                                      | 529    | 157   | 297.01       | 2.52      | 450    | 2.87      | 1 331     | 396.83       |
| 93-94                                                                      | 372    | 117   | 314.55       | 2.37      | 313    | 2.68      | 881       | 421.94       |
| 94-95                                                                      | 255    | 85    | 333.14       | 2.23      | 212    | 2.50      | 568       | 448.43       |
| 95-96                                                                      | 170    | 60    | 352.82       | 2.10      | 140    | 2.33      | 356       | 476.19       |
| 96-97                                                                      | 110    | 41    | 373.59       | 1.97      | 89     | 2.18      | 216       | 507.61       |
| 97-98                                                                      | 69     | 27    | 395.48       | 1.85      | 55     | 2.03      | 127       | 510.54       |
| 98-99                                                                      | 42     | 18    | 418.48       | 1.74      | 33     | 1.89      | 72        | 574.71       |
| 99-100                                                                     | 24     | 11    | 442.65       | 1.63      | 19     | 1.76      | 39        | 613.50       |
| 100-101                                                                    | 13     | 6     | 468.06       | 1.52      | 10     | 1.64      | 20        | 657.89       |
| 101-102                                                                    | 7      | 3     | 494.74       | 1.43      | 5      | 1.52      | 10        | 699.30       |
| 102-103                                                                    | 4      | 2     | 522.75       | 1.33      | 3      | 1.41      | 5         | 751.88       |
| 103-104                                                                    | 2      | 1     | 552.10       | 1.24      | 1      | 1.31      | 2         | 806.45       |
| 104-105                                                                    | 1      | 1     | 582.84       | 1.16      | 1      | 1.22      | 1         | 862.97       |

## UNITED STATES LIFE TABLES.

TABLE 70

## LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (2,398,433), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE<br>INTERVAL.                                    | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 11 405 | 114.05       | 49.46     | 91 902 | 8.06      | 4 946 392 | 20.22        |
| 1-2                                                              | 88 595  | 3 357  | 37.89        | 54.79     | 86 614 | 25.80     | 4 851 490 | 18.25        |
| 2-3                                                              | 85 238  | 1 402  | 16.45        | 55.94     | 84 495 | 60.27     | 4 767 876 | 17.88        |
| 3-4                                                              | 83 836  | 945    | 11.27        | 55.86     | 83 314 | 88.19     | 4 683 381 | 17.90        |
| 4-5                                                              | 82 891  | 599    | 7.22         | 55.50     | 82 580 | 137.86    | 4 600 037 | 18.02        |
| 5-6                                                              | 82 292  | 434    | 5.28         | 51.90     | 82 075 | 189.11    | 4 517 457 | 18.21        |
| 6-7                                                              | 81 858  | 365    | 4.47         | 51.18     | 81 675 | 223.77    | 4 435 382 | 18.46        |
| 7-8                                                              | 81 493  | 306    | 3.75         | 53.42     | 81 340 | 265.82    | 4 353 707 | 18.72        |
| 8-9                                                              | 81 187  | 255    | 3.15         | 52.62     | 81 060 | 317.88    | 4 272 367 | 19.00        |
| 9-10                                                             | 80 932  | 217    | 2.68         | 51.79     | 80 821 | 372.46    | 4 191 307 | 19.31        |
| 10-11                                                            | 80 715  | 190    | 2.36         | 50.93     | 80 620 | 424.32    | 4 110 483 | 19.63        |
| 11-12                                                            | 80 525  | 175    | 2.17         | 50.01     | 80 438 | 459.65    | 4 029 863 | 19.98        |
| 12-13                                                            | 80 350  | 170    | 2.12         | 49.15     | 80 265 | 472.15    | 3 949 425 | 20.35        |
| 13-14                                                            | 80 180  | 175    | 2.18         | 48.26     | 80 092 | 457.67    | 3 869 160 | 20.72        |
| 14-15                                                            | 80 005  | 186    | 2.33         | 47.36     | 79 912 | 429.63    | 3 789 068 | 21.11        |
| 15-16                                                            | 79 819  | 203    | 2.55         | 46.47     | 79 717 | 392.69    | 3 709 156 | 21.52        |
| 16-17                                                            | 79 616  | 225    | 2.82         | 45.59     | 79 504 | 353.35    | 3 629 439 | 21.93        |
| 17-18                                                            | 79 391  | 247    | 3.11         | 44.71     | 79 268 | 320.92    | 3 549 935 | 22.37        |
| 18-19                                                            | 79 144  | 269    | 3.41         | 43.85     | 79 010 | 293.72    | 3 470 667 | 22.81        |
| 19-20                                                            | 78 875  | 291    | 3.69         | 43.00     | 78 729 | 270.55    | 3 391 657 | 23.26        |
| 20-21                                                            | 78 584  | 313    | 3.98         | 42.16     | 78 427 | 250.57    | 3 312 928 | 23.72        |
| 21-22                                                            | 78 271  | 331    | 4.26         | 41.32     | 78 104 | 233.84    | 3 234 501 | 24.20        |
| 22-23                                                            | 77 937  | 352    | 4.53         | 40.50     | 77 761 | 220.91    | 3 156 397 | 24.69        |
| 23-24                                                            | 77 585  | 371    | 4.78         | 39.68     | 77 400 | 208.63    | 3 078 636 | 25.20        |
| 24-25                                                            | 77 214  | 389    | 5.04         | 38.87     | 77 020 | 197.99    | 3 001 236 | 25.73        |
| 25-26                                                            | 76 825  | 408    | 5.32         | 38.06     | 76 621 | 187.80    | 2 924 216 | 26.27        |
| 26-27                                                            | 76 417  | 431    | 5.64         | 37.26     | 76 201 | 176.80    | 2 847 595 | 26.84        |
| 27-28                                                            | 75 986  | 452    | 5.95         | 36.47     | 75 760 | 167.61    | 2 771 394 | 27.42        |
| 28-29                                                            | 75 531  | 471    | 6.23         | 35.69     | 75 298 | 159.87    | 2 695 634 | 28.02        |
| 29-30                                                            | 75 063  | 488    | 6.50         | 34.91     | 74 819 | 153.32    | 2 620 336 | 28.65        |
| 30-31                                                            | 74 575  | 506    | 6.79         | 34.13     | 74 322 | 146.88    | 2 545 517 | 29.30        |
| 31-32                                                            | 74 069  | 526    | 7.11         | 33.36     | 73 806 | 140.32    | 2 471 195 | 29.98        |
| 32-33                                                            | 73 543  | 548    | 7.45         | 32.60     | 73 269 | 133.70    | 2 397 389 | 30.67        |
| 33-34                                                            | 72 995  | 570    | 7.81         | 31.84     | 72 710 | 127.36    | 2 324 120 | 31.41        |
| 34-35                                                            | 72 425  | 591    | 8.16         | 31.09     | 72 129 | 122.05    | 2 251 410 | 32.16        |
| 35-36                                                            | 71 834  | 612    | 8.51         | 30.34     | 71 528 | 116.88    | 2 179 281 | 32.96        |
| 36-37                                                            | 71 222  | 630    | 8.86         | 29.59     | 70 907 | 112.55    | 2 107 753 | 33.80        |
| 37-38                                                            | 70 592  | 649    | 9.19         | 28.85     | 70 267 | 108.27    | 2 036 846 | 34.66        |
| 38-39                                                            | 69 943  | 665    | 9.51         | 28.12     | 69 610 | 104.68    | 1 966 579 | 35.56        |
| 39-40                                                            | 69 278  | 683    | 9.86         | 27.38     | 68 936 | 100.93    | 1 896 969 | 36.52        |
| 40-41                                                            | 68 595  | 702    | 10.23        | 26.65     | 68 244 | 97.21     | 1 828 033 | 37.52        |
| 41-42                                                            | 67 893  | 723    | 10.64        | 25.92     | 67 531 | 93.40     | 1 759 789 | 38.58        |
| 42-43                                                            | 67 170  | 745    | 11.09        | 25.19     | 66 798 | 89.66     | 1 692 258 | 39.70        |
| 43-44                                                            | 66 425  | 770    | 11.59        | 24.47     | 66 040 | 85.77     | 1 625 460 | 40.87        |
| 44-45                                                            | 65 655  | 796    | 12.12        | 23.75     | 65 257 | 81.98     | 1 559 420 | 42.11        |

## THE CITY OF NEW YORK: 1910.

## TABLE 70

REPORTED DEATHS IN 1909 (33,875), IN 1910 (35,024), AND IN 1911 (34,211).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE INTERVAL.                              | OF 100,000 FEMALES BORN ALIVE:             |                               | RATE OF MORTALITY PER THOUSAND.                                              | COMPLETE EXPECTATION OF LIFE.                                                    | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                       |                                                                    |                                                                                              |
|--------------------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|                                            |                                            |                               |                                                                              |                                                                                  | POPULATION IN CURRENT AGE INTERVAL.                                                                                                                                                                         | MEASURE OF VITALITY.                  | POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.                 | DEATH RATE PER THOUSAND.                                                                     |
| Period of lifetime between two exact ages. | Number alive at beginning of age interval. | Number dying in age interval. | Number dying in age interval among 1,000 alive at beginning of age interval. | Average length of life remaining to each one alive at beginning of age interval. | Including only those in current month or year of age.                                                                                                                                                       | Population per death in age interval. | Sum of numbers in column 6 in current and all older age intervals. | Average annual death rate per thousand of population in current and all older age intervals. |
| $x$ to $x+1$                               | $l_x$                                      | $d_x$                         | $1000q_x$                                                                    | $e_x$                                                                            | $L_x$                                                                                                                                                                                                       | $L_x/d_x$                             | $T_x$                                                              | $1000L_x/T_x$                                                                                |
| 1                                          | 2                                          | 3                             | 4                                                                            | 5                                                                                | 6                                                                                                                                                                                                           | 7                                     | 8                                                                  | 9                                                                                            |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 64 859 | 824   | 12.70        | 23.04     | 64 447 | 78.21     | 1 494 163 | 43.40        |
| 46-47                                                                      | 64 035 | 853   | 13.33        | 22.33     | 63 609 | 74.57     | 1 429 716 | 44.78        |
| 47-48                                                                      | 63 182 | 887   | 14.01        | 21.62     | 62 738 | 70.73     | 1 366 107 | 46.25        |
| 48-49                                                                      | 62 295 | 923   | 14.82        | 20.92     | 61 833 | 66.99     | 1 303 369 | 47.80        |
| 49-50                                                                      | 61 372 | 963   | 15.69        | 20.23     | 60 890 | 63.23     | 1 241 536 | 49.43        |
| 50-51                                                                      | 60 409 | 1 005 | 16.63        | 19.54     | 59 906 | 59.61     | 1 180 646 | 51.18        |
| 51-52                                                                      | 59 404 | 1 047 | 17.61        | 18.87     | 58 880 | 56.24     | 1 120 740 | 52.99        |
| 52-53                                                                      | 58 357 | 1 096 | 18.78        | 18.20     | 57 809 | 52.75     | 1 061 860 | 54.93        |
| 53-54                                                                      | 57 261 | 1 154 | 20.14        | 17.53     | 56 684 | 49.12     | 1 004 051 | 57.05        |
| 54-55                                                                      | 56 107 | 1 223 | 21.81        | 16.89     | 55 496 | 45.38     | 947 367   | 59.21        |
| 55-56                                                                      | 54 884 | 1 304 | 23.76        | 16.25     | 54 232 | 41.59     | 891 871   | 61.54        |
| 56-57                                                                      | 53 580 | 1 399 | 26.10        | 15.63     | 52 880 | 37.80     | 837 639   | 63.98        |
| 57-58                                                                      | 52 181 | 1 497 | 28.70        | 15.04     | 51 432 | 34.36     | 784 759   | 66.49        |
| 58-59                                                                      | 50 684 | 1 579 | 31.16        | 14.47     | 49 894 | 31.60     | 733 327   | 69.11        |
| 59-60                                                                      | 49 105 | 1 636 | 33.31        | 13.92     | 48 287 | 29.52     | 683 433   | 71.84        |
| 60-61                                                                      | 47 469 | 1 685 | 35.50        | 13.38     | 46 626 | 27.67     | 635 146   | 74.74        |
| 61-62                                                                      | 45 784 | 1 720 | 37.57        | 12.85     | 44 924 | 26.12     | 588 520   | 77.82        |
| 62-63                                                                      | 44 064 | 1 753 | 39.77        | 12.34     | 43 188 | 24.61     | 543 596   | 81.04        |
| 63-64                                                                      | 42 311 | 1 798 | 42.51        | 11.83     | 41 412 | 23.03     | 500 408   | 84.53        |
| 64-65                                                                      | 40 513 | 1 859 | 45.89        | 11.33     | 39 583 | 21.29     | 458 996   | 88.26        |
| 65-66                                                                      | 38 654 | 1 914 | 49.50        | 10.85     | 37 697 | 19.70     | 419 413   | 92.17        |
| 66-67                                                                      | 36 740 | 1 967 | 53.54        | 10.39     | 35 757 | 18.18     | 381 716   | 96.25        |
| 67-68                                                                      | 34 773 | 2 009 | 57.79        | 9.95      | 33 768 | 16.81     | 345 959   | 100.50       |
| 68-69                                                                      | 32 764 | 2 025 | 61.79        | 9.53      | 31 731 | 15.68     | 312 191   | 104.93       |
| 69-70                                                                      | 30 739 | 2 012 | 65.47        | 9.12      | 29 733 | 14.78     | 280 410   | 109.65       |
| 70-71                                                                      | 28 727 | 1 995 | 69.44        | 8.73      | 27 729 | 13.90     | 250 707   | 114.55       |
| 71-72                                                                      | 26 732 | 1 967 | 73.58        | 8.34      | 25 749 | 13.09     | 222 978   | 119.90       |
| 72-73                                                                      | 24 765 | 1 930 | 77.94        | 7.96      | 23 800 | 12.33     | 197 229   | 125.63       |
| 73-74                                                                      | 22 835 | 1 892 | 82.85        | 7.59      | 21 889 | 11.57     | 173 429   | 131.75       |
| 74-75                                                                      | 20 943 | 1 853 | 88.49        | 7.24      | 20 016 | 10.80     | 151 540   | 138.12       |
| 75-76                                                                      | 19 090 | 1 807 | 94.66        | 6.89      | 18 186 | 10.06     | 131 524   | 145.14       |
| 76-77                                                                      | 17 283 | 1 757 | 101.65       | 6.56      | 16 404 | 9.34      | 113 338   | 152.44       |
| 77-78                                                                      | 15 526 | 1 696 | 109.22       | 6.24      | 14 678 | 8.65      | 96 934    | 160.26       |
| 78-79                                                                      | 13 830 | 1 615 | 116.82       | 5.95      | 13 022 | 8.06      | 82 256    | 168.07       |
| 79-80                                                                      | 12 215 | 1 518 | 124.25       | 5.67      | 11 456 | 7.55      | 69 234    | 176.37       |
| 80-81                                                                      | 10 697 | 1 417 | 132.46       | 5.40      | 9 989  | 7.05      | 57 778    | 185.19       |
| 81-82                                                                      | 9 280  | 1 313 | 141.54       | 5.15      | 8 623  | 6.57      | 47 789    | 194.17       |
| 82-83                                                                      | 7 967  | 1 200 | 150.57       | 4.92      | 7 367  | 6.14      | 39 166    | 203.25       |
| 83-84                                                                      | 6 767  | 1 076 | 159.04       | 4.70      | 6 229  | 5.79      | 31 799    | 212.77       |
| 84-85                                                                      | 5 691  | 951   | 167.02       | 4.49      | 5 216  | 5.49      | 25 570    | 222.72       |
| 85-86                                                                      | 4 740  | 829   | 174.86       | 4.29      | 4 326  | 5.22      | 20 354    | 233.10       |
| 86-87                                                                      | 3 911  | 716   | 183.28       | 4.10      | 3 533  | 4.96      | 16 028    | 243.90       |
| 87-88                                                                      | 3 195  | 617   | 192.88       | 3.91      | 2 886  | 4.68      | 12 475    | 255.75       |
| 88-89                                                                      | 2 578  | 523   | 203.10       | 3.72      | 2 317  | 4.42      | 9 589     | 268.82       |
| 89-90                                                                      | 2 055  | 440   | 213.94       | 3.54      | 1 835  | 4.17      | 7 272     | 282.49       |
| 90-91                                                                      | 1 615  | 364   | 225.35       | 3.37      | 1 433  | 3.94      | 5 437     | 296.74       |
| 91-92                                                                      | 1 251  | 297   | 237.28       | 3.20      | 1 103  | 3.71      | 4 001     | 312.50       |
| 92-93                                                                      | 954    | 238   | 249.72       | 3.04      | 835    | 3.50      | 2 901     | 328.95       |
| 93-94                                                                      | 716    | 188   | 262.74       | 2.89      | 623    | 3.31      | 2 066     | 346.02       |
| 94-95                                                                      | 528    | 146   | 276.42       | 2.74      | 455    | 3.12      | 1 444     | 364.96       |
| 95-96                                                                      | 382    | 111   | 290.97       | 2.59      | 326    | 2.94      | 989       | 386.10       |
| 96-97                                                                      | 271    | 83    | 306.72       | 2.45      | 229    | 2.76      | 663       | 408.16       |
| 97-98                                                                      | 188    | 61    | 323.54       | 2.32      | 157    | 2.59      | 434       | 431.03       |
| 98-99                                                                      | 127    | 43    | 341.42       | 2.18      | 105    | 2.43      | 277       | 458.72       |
| 99-100                                                                     | 84     | 31    | 360.45       | 2.06      | 69     | 2.27      | 172       | 485.44       |
| 100-101                                                                    | 53     | 20    | 380.74       | 1.93      | 43     | 2.13      | 103       | 518.13       |
| 101-102                                                                    | 33     | 13    | 402.38       | 1.82      | 26     | 1.99      | 60        | 549.45       |
| 102-103                                                                    | 20     | 9     | 425.50       | 1.70      | 16     | 1.85      | 34        | 588.24       |
| 103-104                                                                    | 11     | 5     | 450.23       | 1.59      | 9      | 1.72      | 18        | 628.93       |
| 104-105                                                                    | 6      | 3     | 476.73       | 1.49      | 5      | 1.60      | 9         | 671.14       |
| 105-106                                                                    | 3      | 1     | 505.17       | 1.38      | 2      | 1.48      | 4         | 724.61       |
| 106-107                                                                    | 2      | 1     | 535.76       | 1.28      | 1      | 1.37      | 2         | 781.25       |
| 107-108                                                                    | 1      | 1     | 568.75       | 1.19      | 1      | 1.26      | 1         | 840.34       |

TABLE 71

## LIFE TABLE FOR MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (648,298), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE<br>INTERVAL.                                    | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 15 027 | 150.27       | 42.51     | 89 181 | 5.93      | 4 250 702 | 23.52        |
| 1-2                                                              | 84 973  | 3 951  | 46.50        | 48.97     | 82 642 | 20.92     | 4 161 521 | 20.42        |
| 2-3                                                              | 81 022  | 1 831  | 22.59        | 50.34     | 80 052 | 43.72     | 4 078 879 | 19.86        |
| 3-4                                                              | 79 191  | 1 252  | 15.81        | 50.50     | 78 540 | 62.73     | 3 998 827 | 19.80        |
| 4-5                                                              | 77 939  | 945    | 12.13        | 50.30     | 77 448 | 81.96     | 3 920 287 | 19.88        |
| 5-6                                                              | 76 994  | 708    | 9.19         | 49.91     | 76 640 | 108.25    | 3 842 839 | 20.04        |
| 6-7                                                              | 76 286  | 529    | 6.94         | 49.37     | 76 022 | 143.71    | 3 766 199 | 20.26        |
| 7-8                                                              | 75 757  | 400    | 5.28         | 48.71     | 75 557 | 188.89    | 3 690 177 | 20.53        |
| 8-9                                                              | 75 357  | 313    | 4.15         | 47.97     | 75 201 | 240.26    | 3 614 620 | 20.85        |
| 9-10                                                             | 75 044  | 258    | 3.45         | 47.16     | 74 915 | 290.37    | 3 539 419 | 21.20        |
| 10-11                                                            | 74 786  | 233    | 3.11         | 46.33     | 74 669 | 340.47    | 3 464 504 | 21.58        |
| 11-12                                                            | 74 553  | 227    | 3.05         | 45.47     | 74 439 | 327.93    | 3 389 835 | 21.99        |
| 12-13                                                            | 74 326  | 236    | 3.18         | 44.61     | 74 208 | 314.44    | 3 315 396 | 22.42        |
| 13-14                                                            | 74 090  | 254    | 3.42         | 43.75     | 73 963 | 291.19    | 3 241 188 | 22.86        |
| 14-15                                                            | 73 836  | 273    | 3.70         | 42.90     | 73 700 | 269.96    | 3 167 225 | 23.31        |
| 15-16                                                            | 73 563  | 302    | 4.11         | 42.05     | 73 412 | 243.09    | 3 093 525 | 23.78        |
| 16-17                                                            | 73 261  | 341    | 4.65         | 41.22     | 73 090 | 214.31    | 3 020 113 | 24.26        |
| 17-18                                                            | 72 920  | 384    | 5.26         | 40.41     | 72 728 | 189.40    | 2 947 023 | 24.75        |
| 18-19                                                            | 72 536  | 425    | 5.86         | 39.63     | 72 324 | 170.17    | 2 874 295 | 25.23        |
| 19-20                                                            | 72 111  | 463    | 6.42         | 38.86     | 71 879 | 155.25    | 2 801 971 | 25.73        |
| 20-21                                                            | 71 618  | 500    | 6.98         | 38.10     | 71 398 | 142.80    | 2 730 092 | 26.25        |
| 21-22                                                            | 71 148  | 535    | 7.52         | 37.37     | 70 881 | 132.49    | 2 658 694 | 26.76        |
| 22-23                                                            | 70 613  | 561    | 7.95         | 36.65     | 70 332 | 125.37    | 2 587 813 | 27.29        |
| 23-24                                                            | 70 032  | 578    | 8.24         | 35.94     | 69 763 | 120.70    | 2 517 481 | 27.82        |
| 24-25                                                            | 69 474  | 588    | 8.46         | 35.23     | 69 180 | 117.65    | 2 447 718 | 28.38        |
| 25-26                                                            | 68 866  | 597    | 8.68         | 34.53     | 68 588 | 114.89    | 2 378 538 | 28.96        |
| 26-27                                                            | 68 289  | 608    | 8.90         | 33.83     | 67 985 | 111.82    | 2 309 950 | 29.56        |
| 27-28                                                            | 67 681  | 616    | 9.11         | 33.13     | 67 373 | 109.37    | 2 241 965 | 30.18        |
| 28-29                                                            | 67 065  | 626    | 9.33         | 32.43     | 66 752 | 106.63    | 2 174 592 | 30.84        |
| 29-30                                                            | 66 439  | 636    | 9.57         | 31.73     | 66 121 | 103.96    | 2 107 840 | 31.52        |
| 30-31                                                            | 65 803  | 646    | 9.82         | 31.03     | 65 480 | 101.36    | 2 041 719 | 32.23        |
| 31-32                                                            | 65 157  | 656    | 10.06        | 30.33     | 64 829 | 98.82     | 1 976 239 | 32.97        |
| 32-33                                                            | 64 501  | 670    | 10.39        | 29.63     | 64 166 | 95.77     | 1 911 410 | 33.75        |
| 33-34                                                            | 63 831  | 692    | 10.85        | 28.94     | 63 485 | 91.74     | 1 847 244 | 34.55        |
| 34-35                                                            | 63 139  | 720    | 11.39        | 28.25     | 62 779 | 87.19     | 1 783 759 | 35.40        |
| 35-36                                                            | 62 419  | 746    | 11.95        | 27.57     | 62 046 | 83.17     | 1 720 990 | 36.27        |
| 36-37                                                            | 61 673  | 775    | 12.57        | 26.90     | 61 286 | 79.08     | 1 658 934 | 37.17        |
| 37-38                                                            | 60 898  | 797    | 13.10        | 26.23     | 60 500 | 75.91     | 1 597 648 | 38.12        |
| 38-39                                                            | 60 101  | 811    | 13.49        | 25.58     | 59 695 | 73.61     | 1 537 148 | 39.09        |
| 39-40                                                            | 59 290  | 817    | 13.79        | 24.92     | 58 882 | 72.07     | 1 477 453 | 40.13        |
| 40-41                                                            | 58 473  | 826    | 14.13        | 24.26     | 58 060 | 70.29     | 1 418 571 | 41.22        |
| 41-42                                                            | 57 617  | 834    | 14.46        | 23.60     | 57 230 | 68.62     | 1 360 511 | 42.37        |
| 42-43                                                            | 56 813  | 849    | 14.95        | 22.94     | 56 388 | 66.42     | 1 303 281 | 43.59        |
| 43-44                                                            | 55 964  | 860    | 15.73        | 22.28     | 55 524 | 63.10     | 1 246 893 | 44.88        |
| 44-45                                                            | 55 084  | 922    | 16.73        | 21.63     | 54 623 | 59.24     | 1 191 369 | 46.23        |

## CITY OF PHILADELPHIA: 1901.

## TABLE 71

REPORTED DEATHS IN 1900 (14,139), IN 1901 (12,200), AND IN 1902 (12,297).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE<br>INTERVAL.                                    | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 54 162 | 965   | 17.81        | 20.99     | 53 680 | 55.63     | 1 136 746 | 47.64        |
| 46-47                                                                      | 53 157 | 1 014 | 19.07        | 20.36     | 52 690 | 51.96     | 1 083 066 | 49.12        |
| 47-48                                                                      | 52 183 | 1 057 | 20.24        | 19.75     | 51 655 | 48.87     | 1 030 376 | 50.63        |
| 48-49                                                                      | 51 126 | 1 078 | 21.08        | 19.14     | 50 587 | 46.93     | 978 721   | 52.25        |
| 49-50                                                                      | 50 048 | 1 084 | 21.67        | 18.54     | 49 506 | 45.67     | 928 134   | 53.94        |
| 50-51                                                                      | 48 964 | 1 094 | 22.33        | 17.94     | 48 417 | 44.26     | 878 628   | 55.74        |
| 51-52                                                                      | 47 870 | 1 098 | 22.95        | 17.34     | 47 321 | 43.10     | 830 211   | 57.67        |
| 52-53                                                                      | 46 772 | 1 115 | 23.84        | 16.74     | 46 214 | 41.45     | 782 890   | 59.74        |
| 53-54                                                                      | 45 677 | 1 154 | 25.26        | 16.14     | 45 080 | 39.06     | 736 676   | 61.98        |
| 54-55                                                                      | 44 503 | 1 210 | 27.21        | 15.54     | 43 898 | 36.28     | 691 596   | 64.35        |
| 55-56                                                                      | 43 293 | 1 271 | 29.35        | 14.96     | 42 657 | 33.56     | 647 698   | 66.84        |
| 56-57                                                                      | 42 022 | 1 340 | 31.89        | 14.40     | 41 352 | 30.86     | 605 011   | 69.44        |
| 57-58                                                                      | 40 682 | 1 401 | 34.45        | 13.86     | 39 981 | 28.54     | 563 689   | 72.15        |
| 58-59                                                                      | 39 281 | 1 435 | 36.53        | 13.33     | 38 563 | 26.87     | 523 708   | 75.02        |
| 59-60                                                                      | 37 816 | 1 445 | 38.18        | 12.82     | 37 123 | 25.69     | 485 145   | 78.00        |
| 60-61                                                                      | 36 101 | 1 455 | 39.96        | 12.31     | 35 673 | 24.52     | 448 022   | 81.23        |
| 61-62                                                                      | 34 946 | 1 456 | 41.67        | 11.80     | 34 218 | 23.50     | 412 349   | 84.75        |
| 62-63                                                                      | 33 490 | 1 468 | 43.83        | 11.29     | 32 756 | 22.31     | 378 131   | 88.57        |
| 63-64                                                                      | 32 022 | 1 506 | 47.03        | 10.79     | 31 269 | 20.76     | 345 375   | 92.68        |
| 64-65                                                                      | 30 516 | 1 564 | 51.26        | 10.29     | 29 734 | 19.01     | 314 106   | 97.18        |
| 65-66                                                                      | 28 952 | 1 618 | 55.89        | 9.82      | 28 143 | 17.39     | 284 372   | 101.83       |
| 66-67                                                                      | 27 331 | 1 656 | 60.59        | 9.37      | 26 506 | 16.01     | 256 229   | 106.72       |
| 67-68                                                                      | 25 678 | 1 668 | 64.97        | 8.95      | 24 844 | 14.89     | 229 723   | 111.73       |
| 68-69                                                                      | 24 010 | 1 664 | 69.28        | 8.53      | 23 178 | 13.93     | 204 879   | 117.23       |
| 69-70                                                                      | 22 316 | 1 613 | 73.54        | 8.13      | 21 525 | 13.10     | 181 701   | 123.00       |
| 70-71                                                                      | 20 703 | 1 612 | 77.85        | 7.74      | 19 897 | 12.34     | 160 176   | 129.20       |
| 71-72                                                                      | 19 091 | 1 574 | 82.44        | 7.35      | 18 304 | 11.63     | 140 279   | 136.05       |
| 72-73                                                                      | 17 517 | 1 533 | 87.55        | 6.96      | 16 750 | 10.93     | 121 975   | 143.68       |
| 73-74                                                                      | 15 981 | 1 494 | 93.42        | 6.58      | 15 237 | 10.20     | 105 225   | 151.98       |
| 74-75                                                                      | 14 490 | 1 453 | 100.29       | 6.21      | 13 764 | 9.47      | 89 988    | 161.03       |
| 75-76                                                                      | 13 037 | 1 412 | 108.35       | 5.85      | 12 331 | 8.73      | 76 224    | 170.94       |
| 76-77                                                                      | 11 625 | 1 369 | 117.70       | 5.50      | 10 940 | 7.99      | 63 893    | 181.82       |
| 77-78                                                                      | 10 256 | 1 316 | 128.37       | 5.16      | 9 598  | 7.29      | 52 953    | 193.80       |
| 78-79                                                                      | 8 940  | 1 254 | 140.22       | 4.85      | 8 313  | 6.63      | 43 355    | 206.19       |
| 79-80                                                                      | 7 686  | 1 176 | 153.04       | 4.56      | 7 098  | 6.04      | 35 042    | 219.30       |
| 80-81                                                                      | 6 510  | 1 084 | 166.45       | 4.29      | 5 968  | 5.51      | 27 944    | 233.10       |
| 81-82                                                                      | 5 426  | 977   | 180.08       | 4.03      | 4 938  | 5.05      | 21 976    | 246.91       |
| 82-83                                                                      | 4 449  | 861   | 193.58       | 3.83      | 4 019  | 4.67      | 17 038    | 261.10       |
| 83-84                                                                      | 3 588  | 712   | 206.75       | 3.63      | 3 217  | 4.34      | 13 019    | 276.48       |
| 84-85                                                                      | 2 816  | 625   | 219.51       | 3.44      | 2 534  | 4.06      | 9 802     | 290.70       |
| 85-86                                                                      | 2 221  | 515   | 231.99       | 3.27      | 1 964  | 3.81      | 7 268     | 305.81       |
| 86-87                                                                      | 1 706  | 417   | 244.44       | 3.11      | 1 498  | 3.59      | 5 304     | 321.51       |
| 87-88                                                                      | 1 289  | 332   | 257.20       | 2.95      | 1 123  | 3.39      | 3 806     | 338.98       |
| 88-89                                                                      | 957    | 259   | 270.58       | 2.80      | 828    | 3.20      | 2 683     | 357.14       |
| 89-90                                                                      | 698    | 199   | 284.82       | 2.66      | 599    | 3.01      | 1 855     | 375.94       |
| 90-91                                                                      | 499    | 149   | 300.02       | 2.52      | 425    | 2.83      | 1 256     | 396.83       |
| 91-92                                                                      | 350    | 111   | 316.20       | 2.38      | 294    | 2.66      | 831       | 420.17       |
| 92-93                                                                      | 239    | 80    | 333.30       | 2.25      | 199    | 2.50      | 537       | 444.44       |
| 93-94                                                                      | 159    | 56    | 351.28       | 2.13      | 131    | 2.35      | 338       | 469.48       |
| 94-95                                                                      | 103    | 38    | 370.11       | 2.01      | 84     | 2.20      | 207       | 497.51       |
| 95-96                                                                      | 65     | 25    | 389.83       | 1.90      | 52     | 2.07      | 123       | 526.32       |
| 96-97                                                                      | 40     | 17    | 410.48       | 1.79      | 32     | 1.94      | 71        | 558.66       |
| 97-98                                                                      | 23     | 10    | 432.10       | 1.68      | 18     | 1.81      | 39        | 595.24       |
| 98-99                                                                      | 13     | 6     | 454.74       | 1.59      | 10     | 1.70      | 21        | 628.93       |
| 99-100                                                                     | 7      | 3     | 478.42       | 1.49      | 6      | 1.59      | 11        | 671.14       |
| 100-101                                                                    | 4      | 2     | 503.17       | 1.40      | 3      | 1.49      | 5         | 714.29       |
| 101-102                                                                    | 2      | 1     | 529.04       | 1.32      | 1      | 1.39      | 2         | 737.58       |
| 102-103                                                                    | 1      | 1     | 556.04       | 1.24      | 1      | 1.30      | 1         | 806.45       |

TABLE 72

## LIFE TABLE FOR MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (763,107), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE<br>INTERVAL.                                    | OF 100,000 MALES BORN<br>ALIVE:                  |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                             | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                          | 7                                           | 8                                                                             | 9                                                                                                               |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 14 174 | 141.74       | 45.47     | 89 795 | 6.34      | 4 546 697 | 21.99        |
| 1-2                                                              | 85 826  | 3 282  | 38.24        | 51.93     | 83 890 | 25.56     | 4 156 902 | 19.26        |
| 2-3                                                              | 82 514  | 1 488  | 18.03        | 52.98     | 81 756 | 54.94     | 4 373 012 | 18.88        |
| 3-4                                                              | 81 056  | 937    | 11.56        | 52.94     | 80 569 | 85.99     | 4 291 256 | 18.89        |
| 4-5                                                              | 80 119  | 677    | 8.46         | 52.56     | 79 767 | 117.82    | 4 210 687 | 19.03        |
| 5-6                                                              | 79 442  | 475    | 5.98         | 52.00     | 79 204 | 166.75    | 4 130 920 | 19.23        |
| 6-7                                                              | 78 967  | 389    | 4.92         | 51.31     | 78 773 | 202.50    | 4 051 716 | 19.49        |
| 7-8                                                              | 78 578  | 318    | 4.06         | 50.56     | 78 419 | 246.60    | 3 972 943 | 19.78        |
| 8-9                                                              | 78 260  | 265    | 3.39         | 49.76     | 78 127 | 294.82    | 3 894 524 | 20.10        |
| 9-10                                                             | 77 995  | 226    | 2.90         | 48.93     | 77 862 | 344.61    | 3 816 397 | 20.44        |
| 10-11                                                            | 77 769  | 201    | 2.58         | 48.07     | 77 668 | 386.41    | 3 738 515 | 20.80        |
| 11-12                                                            | 77 568  | 189    | 2.43         | 47.20     | 77 474 | 409.92    | 3 660 847 | 21.19        |
| 12-13                                                            | 77 379  | 187    | 2.43         | 46.31     | 77 286 | 413.29    | 3 583 373 | 21.59        |
| 13-14                                                            | 77 192  | 197    | 2.55         | 45.42     | 77 093 | 391.34    | 3 506 087 | 22.02        |
| 14-15                                                            | 76 995  | 215    | 2.79         | 44.54     | 76 888 | 357.62    | 3 428 994 | 22.45        |
| 15-16                                                            | 76 780  | 239    | 3.12         | 43.66     | 76 661 | 320.76    | 3 352 106 | 22.90        |
| 16-17                                                            | 76 541  | 269    | 3.52         | 42.79     | 76 406 | 281.04    | 3 275 415 | 23.37        |
| 17-18                                                            | 76 272  | 303    | 3.96         | 41.94     | 76 120 | 251.22    | 3 199 039 | 23.84        |
| 18-19                                                            | 75 969  | 333    | 4.39         | 41.11     | 75 802 | 227.63    | 3 122 919 | 24.32        |
| 19-20                                                            | 75 636  | 364    | 4.80         | 40.29     | 75 454 | 207.29    | 3 047 117 | 24.82        |
| 20-21                                                            | 75 272  | 393    | 5.22         | 39.48     | 75 076 | 191.03    | 2 971 663 | 25.33        |
| 21-22                                                            | 74 879  | 423    | 5.65         | 38.68     | 74 668 | 176.52    | 2 896 587 | 25.85        |
| 22-23                                                            | 74 456  | 447    | 6.01         | 37.90     | 74 233 | 166.07    | 2 821 919 | 26.39        |
| 23-24                                                            | 74 009  | 465    | 6.29         | 37.13     | 73 777 | 158.66    | 2 747 686 | 26.93        |
| 24-25                                                            | 73 544  | 480    | 6.52         | 36.36     | 73 304 | 152.72    | 2 673 909 | 27.50        |
| 25-26                                                            | 73 064  | 495    | 6.78         | 35.59     | 72 816 | 147.10    | 2 600 605 | 28.10        |
| 26-27                                                            | 72 569  | 512    | 7.05         | 34.83     | 72 313 | 141.24    | 2 527 789 | 28.71        |
| 27-28                                                            | 72 057  | 528    | 7.32         | 34.08     | 71 793 | 135.97    | 2 455 476 | 29.34        |
| 28-29                                                            | 71 529  | 543    | 7.60         | 33.32     | 71 258 | 131.23    | 2 383 683 | 30.01        |
| 29-30                                                            | 70 986  | 561    | 7.90         | 32.58     | 70 705 | 126.03    | 2 312 425 | 30.69        |
| 30-31                                                            | 70 425  | 578    | 8.21         | 31.83     | 70 136 | 121.34    | 2 241 720 | 31.42        |
| 31-32                                                            | 69 847  | 594    | 8.51         | 31.09     | 69 550 | 117.09    | 2 171 584 | 32.16        |
| 32-33                                                            | 69 253  | 619    | 8.93         | 30.35     | 68 944 | 111.38    | 2 102 034 | 32.95        |
| 33-34                                                            | 68 634  | 652    | 9.51         | 29.62     | 68 308 | 104.77    | 2 033 090 | 33.76        |
| 34-35                                                            | 67 982  | 692    | 10.17        | 28.90     | 67 636 | 97.74     | 1 964 782 | 34.60        |
| 35-36                                                            | 67 290  | 729    | 10.84        | 28.19     | 66 926 | 91.81     | 1 897 146 | 35.47        |
| 36-37                                                            | 66 561  | 768    | 11.54        | 27.50     | 66 177 | 86.17     | 1 830 220 | 36.36        |
| 37-38                                                            | 65 793  | 796    | 12.11        | 26.81     | 65 395 | 82.15     | 1 764 043 | 37.30        |
| 38-39                                                            | 64 997  | 811    | 12.47        | 26.13     | 64 591 | 79.64     | 1 698 648 | 38.27        |
| 39-40                                                            | 64 186  | 815    | 12.71        | 25.46     | 63 779 | 78.26     | 1 634 057 | 39.28        |
| 40-41                                                            | 63 371  | 823    | 12.98        | 24.78     | 62 959 | 76.50     | 1 570 278 | 40.36        |
| 41-42                                                            | 62 546  | 829    | 13.25        | 24.10     | 62 131 | 74.95     | 1 507 319 | 41.49        |
| 42-43                                                            | 61 719  | 844    | 13.68        | 23.42     | 61 297 | 72.63     | 1 445 185 | 42.70        |
| 43-44                                                            | 60 875  | 870    | 14.38        | 22.73     | 60 437 | 68.99     | 1 383 888 | 43.99        |
| 44-45                                                            | 59 999  | 916    | 15.27        | 22.06     | 59 541 | 65.00     | 1 323 451 | 45.33        |

## CITY OF PHILADELPHIA: 1910.

TABLE 72

REPORTED DEATHS IN 1909 (12,976), IN 1910 (14,255), AND IN 1911 (13,895).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE<br>INTERVAL. | OF 100,000 MALES BORN<br>ALIVE:                     |                                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND. | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                           | STATIONARY MALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Males were Born Alive Uniformly Throughout Each Year. |                                                                |                                                            |                                                                               |
|------------------|-----------------------------------------------------|--------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------|
|                  |                                                     |                                                  |                                          |                                                                                               | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                  | MEASURE OF<br>VITALITY.                                        | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS. | DEATH RATE<br>PER THOUSAND.                                                   |
|                  | Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval.         | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval.                                                                                                               | Including only<br>those in current<br>month or year<br>of age. | Population<br>per death in<br>age interval.                | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$     | $l_x$                                               | $d_x$                                            | $1000q_x$                                | $e_x$                                                                                         | $L_x$                                                                                                                                                                                                      | $L_x/d_x$                                                      | $T_x$                                                      | $1000l_x/T_x$                                                                 |
| 1                | 2                                                   | 3                                                | 4                                        | 5                                                                                             | 6                                                                                                                                                                                                          | 7                                                              | 8                                                          | 9                                                                             |

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.

| Years.  |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
|---------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| 45-46   | 59 037 | 957   | 16.20        | 21.39     | 58 604 | 61.24     | 1 263 910 | 46.75        |
| 46-47   | 58 126 | 1 001 | 17.21        | 20.74     | 57 626 | 57.57     | 1 205 306 | 48.22        |
| 47-48   | 57 127 | 1 039 | 18.20        | 20.09     | 56 606 | 51.18     | 1 147 680 | 49.78        |
| 48-49   | 56 086 | 1 069 | 19.06        | 19.45     | 55 551 | 51.97     | 1 091 074 | 51.11        |
| 49-50   | 55 017 | 1 092 | 19.85        | 18.82     | 54 471 | 49.88     | 1 035 523 | 53.13        |
| 50-51   | 53 925 | 1 117 | 20.71        | 18.19     | 53 366 | 47.78     | 981 052   | 54.98        |
| 51-52   | 52 808 | 1 140 | 21.59        | 17.57     | 52 238 | 45.82     | 927 686   | 56.92        |
| 52-53   | 51 668 | 1 171 | 22.67        | 16.94     | 51 082 | 43.62     | 875 418   | 59.03        |
| 53-54   | 50 497 | 1 221 | 24.18        | 16.33     | 49 886 | 40.86     | 824 366   | 61.24        |
| 54-55   | 49 276 | 1 289 | 26.16        | 15.72     | 48 631 | 37.73     | 771 480   | 63.61        |
| 55-56   | 47 987 | 1 365 | 28.45        | 15.13     | 47 304 | 34.65     | 725 849   | 66.09        |
| 56-57   | 46 622 | 1 460 | 31.30        | 14.55     | 45 892 | 31.43     | 678 545   | 68.73        |
| 57-58   | 45 162 | 1 517 | 34.25        | 14.01     | 44 389 | 28.69     | 632 653   | 71.38        |
| 58-59   | 43 615 | 1 597 | 36.63        | 13.49     | 42 817 | 26.81     | 588 264   | 74.13        |
| 59-60   | 42 018 | 1 614 | 38.40        | 12.98     | 41 211 | 25.53     | 545 447   | 77.04        |
| 60-61   | 40 404 | 1 628 | 40.30        | 12.48     | 39 590 | 24.32     | 504 236   | 80.13        |
| 61-62   | 38 776 | 1 631 | 42.05        | 11.98     | 37 961 | 23.27     | 464 646   | 83.47        |
| 62-63   | 37 145 | 1 643 | 44.24        | 11.49     | 36 324 | 22.11     | 426 685   | 87.03        |
| 63-64   | 35 502 | 1 685 | 47.46        | 11.00     | 34 659 | 20.57     | 390 361   | 90.91        |
| 64-65   | 33 817 | 1 747 | 51.66        | 10.52     | 32 943 | 18.86     | 355 702   | 95.06        |
| 65-66   | 32 070 | 1 797 | 56.05        | 10.06     | 31 171 | 17.35     | 322 759   | 99.40        |
| 66-67   | 30 273 | 1 844 | 60.91        | 9.63      | 29 351 | 15.92     | 291 588   | 103.84       |
| 67-68   | 28 429 | 1 867 | 65.68        | 9.22      | 27 495 | 14.73     | 262 237   | 108.46       |
| 68-69   | 26 562 | 1 852 | 69.70        | 8.84      | 25 636 | 13.84     | 234 712   | 113.12       |
| 69-70   | 24 710 | 1 807 | 73.14        | 8.46      | 23 807 | 13.17     | 209 106   | 118.20       |
| 70-71   | 22 903 | 1 762 | 76.92        | 8.09      | 22 022 | 12.50     | 185 299   | 123.61       |
| 71-72   | 21 141 | 1 708 | 80.83        | 7.72      | 20 287 | 11.88     | 163 277   | 129.53       |
| 72-73   | 19 433 | 1 657 | 85.25        | 7.36      | 18 604 | 11.23     | 142 990   | 135.87       |
| 73-74   | 17 776 | 1 612 | 90.69        | 7.00      | 16 970 | 10.53     | 124 386   | 142.86       |
| 74-75   | 16 164 | 1 571 | 97.18        | 6.65      | 15 378 | 9.79      | 107 416   | 150.38       |
| 75-76   | 14 593 | 1 522 | 104.27       | 6.31      | 13 832 | 9.09      | 92 038    | 158.48       |
| 76-77   | 13 071 | 1 469 | 112.40       | 5.98      | 12 337 | 8.40      | 78 206    | 167.22       |
| 77-78   | 11 602 | 1 402 | 120.84       | 5.68      | 10 901 | 7.78      | 65 869    | 176.06       |
| 78-79   | 10 200 | 1 312 | 128.62       | 5.39      | 9 544  | 7.27      | 54 968    | 185.53       |
| 79-80   | 8 888  | 1 206 | 135.73       | 5.11      | 8 285  | 6.87      | 45 424    | 195.69       |
| 80-81   | 7 682  | 1 103 | 143.54       | 4.83      | 7 131  | 6.47      | 37 139    | 207.04       |
| 81-82   | 6 579  | 1 003 | 152.53       | 4.56      | 6 078  | 6.06      | 30 008    | 219.30       |
| 82-83   | 5 576  | 910   | 163.14       | 4.29      | 5 121  | 5.63      | 23 930    | 233.10       |
| 83-84   | 4 666  | 817   | 175.16       | 4.03      | 4 257  | 5.21      | 18 809    | 248.14       |
| 84-85   | 3 849  | 726   | 188.62       | 3.78      | 3 486  | 4.80      | 14 552    | 264.55       |
| 85-86   | 3 123  | 635   | 203.41       | 3.54      | 2 805  | 4.42      | 11 066    | 282.49       |
| 86-87   | 2 488  | 516   | 219.28       | 3.32      | 2 218  | 4.06      | 8 261     | 301.20       |
| 87-88   | 1 942  | 458   | 235.97       | 3.11      | 1 713  | 3.74      | 6 046     | 321.54       |
| 88-89   | 1 484  | 376   | 253.24       | 2.92      | 1 296  | 3.45      | 4 333     | 342.47       |
| 89-90   | 1 108  | 300   | 270.95       | 2.74      | 958    | 3.19      | 3 037     | 364.96       |
| 90-91   | 808    | 234   | 289.09       | 2.57      | 691    | 2.96      | 2 079     | 389.11       |
| 91-92   | 574    | 176   | 307.78       | 2.42      | 486    | 2.75      | 1 388     | 413.22       |
| 92-93   | 398    | 131   | 327.19       | 2.27      | 333    | 2.56      | 902       | 440.53       |
| 93-94   | 267    | 92    | 347.49       | 2.13      | 221    | 2.38      | 569       | 469.48       |
| 94-95   | 175    | 65    | 368.81       | 2.00      | 142    | 2.21      | 348       | 500.00       |
| 95-96   | 110    | 43    | 391.23       | 1.87      | 89     | 2.06      | 206       | 531.76       |
| 96-97   | 67     | 28    | 414.76       | 1.75      | 53     | 1.91      | 117       | 571.43       |
| 97-98   | 39     | 17    | 439.31       | 1.64      | 31     | 1.78      | 64        | 609.76       |
| 98-99   | 22     | 10    | 465.03       | 1.54      | 17     | 1.65      | 33        | 649.33       |
| 99-100  | 12     | 6     | 491.84       | 1.44      | 9      | 1.53      | 16        | 694.44       |
| 100-101 | 6      | 3     | 519.73       | 1.34      | 4      | 1.42      | 7         | 746.27       |
| 101-102 | 3      | 2     | 548.70       | 1.25      | 2      | 1.32      | 3         | 800.00       |
| 102-103 | 1      | 1     | 578.72       | 1.17      | 1      | 1.23      | 1         | 854.70       |



TABLE 73

## LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (673,408), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE<br>INTERVAL.                                    | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $L_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |  |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. |  | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |  |              |
| 1-2                                                                |  |  |               |           |  |            |  |              |
| 2-3                                                                |  |  |               |           |  |            |  |              |
| 3-4                                                                |  |  |               |           |  |            |  |              |
| 4-5                                                                |  |  |               |           |  |            |  |              |
| 5-6                                                                |  |  |               |           |  |            |  |              |
| 6-7                                                                |  |  |               |           |  |            |  |              |
| 7-8                                                                |  |  |               |           |  |            |  |              |
| 8-9                                                                |  |  |               |           |  |            |  |              |
| 9-10                                                               |  |  |               |           |  |            |  |              |
| 10-11                                                              |  |  |               |           |  |            |  |              |
| 11-12                                                              |  |  |               |           |  |            |  |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 0-1                                                              | 100 000 | 12 741 | 127.41       | 46.23     | 90 954 | 7.14      | 4 623 167 | 21.63        |
| 1-2                                                              | 87 259  | 3 628  | 41.58        | 51.94     | 85 119 | 23.16     | 4 532 213 | 19.25        |
| 2-3                                                              | 83 631  | 1 711  | 20.45        | 53.18     | 82 721 | 48.35     | 4 447 094 | 18.80        |
| 3-4                                                              | 81 920  | 1 220  | 14.90        | 53.28     | 81 286 | 66.63     | 4 364 370 | 18.77        |
| 4-5                                                              | 80 700  | 932    | 11.56        | 53.07     | 80 215 | 86.07     | 4 283 084 | 18.84        |
| 5-6                                                              | 79 768  | 707    | 8.86         | 52.69     | 79 414 | 112.33    | 4 202 869 | 18.98        |
| 6-7                                                              | 79 061  | 533    | 6.74         | 52.16     | 78 795 | 147.83    | 4 123 455 | 19.17        |
| 7-8                                                              | 78 528  | 405    | 5.15         | 51.51     | 78 326 | 193.40    | 4 044 660 | 19.41        |
| 8-9                                                              | 78 123  | 314    | 4.03         | 50.77     | 77 966 | 248.30    | 3 966 334 | 19.70        |
| 9-10                                                             | 77 809  | 257    | 3.30         | 49.97     | 77 680 | 302.26    | 3 888 368 | 20.01        |
| 10-11                                                            | 77 552  | 225    | 2.91         | 49.14     | 77 439 | 344.17    | 3 810 688 | 20.35        |
| 11-12                                                            | 77 327  | 216    | 2.79         | 48.28     | 77 219 | 357.50    | 3 733 249 | 20.71        |
| 12-13                                                            | 77 111  | 222    | 2.88         | 47.41     | 77 000 | 346.85    | 3 656 030 | 21.09        |
| 13-14                                                            | 76 889  | 239    | 3.11         | 46.55     | 76 770 | 321.21    | 3 579 030 | 21.48        |
| 14-15                                                            | 76 650  | 261    | 3.42         | 45.69     | 76 519 | 293.18    | 3 502 260 | 21.89        |
| 15-16                                                            | 76 389  | 295    | 3.86         | 44.85     | 76 241 | 258.44    | 3 425 741 | 22.30        |
| 16-17                                                            | 76 094  | 336    | 4.41         | 44.02     | 75 926 | 225.97    | 3 349 500 | 22.72        |
| 17-18                                                            | 75 758  | 376    | 4.96         | 43.21     | 75 570 | 200.98    | 3 273 574 | 23.14        |
| 18-19                                                            | 75 382  | 409    | 5.44         | 42.42     | 75 177 | 183.81    | 3 198 004 | 23.57        |
| 19-20                                                            | 74 973  | 437    | 5.83         | 41.65     | 74 754 | 171.06    | 3 122 827 | 24.01        |
| 20-21                                                            | 74 536  | 465    | 6.23         | 40.89     | 74 303 | 159.79    | 3 048 073 | 24.46        |
| 21-22                                                            | 74 071  | 490    | 6.63         | 40.15     | 73 826 | 150.67    | 2 973 770 | 24.91        |
| 22-23                                                            | 73 581  | 510    | 6.93         | 39.41     | 73 326 | 143.78    | 2 899 944 | 25.37        |
| 23-24                                                            | 73 071  | 521    | 7.13         | 38.68     | 72 810 | 139.75    | 2 826 618 | 25.85        |
| 24-25                                                            | 72 550  | 528    | 7.28         | 37.96     | 72 286 | 136.91    | 2 753 808 | 26.34        |
| 25-26                                                            | 72 022  | 536    | 7.44         | 37.23     | 71 754 | 133.87    | 2 681 522 | 26.86        |
| 26-27                                                            | 71 486  | 542    | 7.59         | 36.51     | 71 215 | 131.39    | 2 609 768 | 27.39        |
| 27-28                                                            | 70 941  | 552    | 7.77         | 35.78     | 70 668 | 128.02    | 2 538 553 | 27.95        |
| 28-29                                                            | 70 392  | 563    | 8.01         | 35.06     | 70 110 | 124.53    | 2 467 885 | 28.53        |
| 29-30                                                            | 69 829  | 580    | 8.30         | 34.34     | 69 539 | 119.89    | 2 397 775 | 29.13        |
| 30-31                                                            | 69 249  | 594    | 8.59         | 33.62     | 68 952 | 116.08    | 2 328 236 | 29.74        |
| 31-32                                                            | 68 655  | 611    | 8.89         | 32.91     | 68 350 | 111.87    | 2 259 284 | 30.39        |
| 32-33                                                            | 68 044  | 629    | 9.25         | 32.20     | 67 730 | 107.68    | 2 190 934 | 31.06        |
| 33-34                                                            | 67 415  | 651    | 9.66         | 31.49     | 67 090 | 103.06    | 2 123 204 | 31.76        |
| 34-35                                                            | 66 764  | 674    | 10.10        | 30.80     | 66 427 | 98.56     | 2 056 114 | 32.47        |
| 35-36                                                            | 66 090  | 697    | 10.54        | 30.11     | 65 742 | 94.32     | 1 989 687 | 33.21        |
| 36-37                                                            | 65 393  | 720    | 11.01        | 29.42     | 65 033 | 90.32     | 1 923 945 | 33.99        |
| 37-38                                                            | 64 673  | 735    | 11.38        | 28.74     | 64 305 | 87.49     | 1 858 912 | 34.79        |
| 38-39                                                            | 63 938  | 740    | 11.57        | 28.07     | 63 568 | 85.90     | 1 794 607 | 35.63        |
| 39-40                                                            | 63 198  | 736    | 11.65        | 27.39     | 62 830 | 85.37     | 1 731 039 | 36.51        |
| 40-41                                                            | 62 462  | 734    | 11.75        | 26.71     | 62 095 | 84.60     | 1 668 209 | 37.44        |
| 41-42                                                            | 61 728  | 731    | 11.84        | 26.02     | 61 363 | 83.94     | 1 606 114 | 38.43        |
| 42-43                                                            | 60 997  | 734    | 12.04        | 25.33     | 60 630 | 82.60     | 1 544 751 | 39.48        |
| 43-44                                                            | 60 263  | 751    | 12.45        | 24.63     | 59 888 | 79.74     | 1 484 121 | 40.60        |
| 44-45                                                            | 59 512  | 776    | 13.04        | 23.93     | 59 124 | 76.19     | 1 424 233 | 41.79        |

## THE CITY OF PHILADELPHIA: 1901.

## TABLE 73

REPORTED DEATHS IN 1900 (12,836), IN 1901 (11,606), AND IN 1902 (11,281).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE<br>INTERVAL.                                    | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 58 736 | 802   | 13.66        | 23.24     | 58 335 | 72.74     | 1 365 109 | 43.03        |
| 46-47                                                                      | 57 934 | 831   | 14.35        | 22.56     | 57 519 | 69.22     | 1 306 774 | 44.33        |
| 47-48                                                                      | 57 103 | 861   | 15.07        | 21.88     | 56 673 | 65.82     | 1 249 255 | 45.70        |
| 48-49                                                                      | 56 242 | 886   | 15.75        | 21.20     | 55 799 | 62.98     | 1 192 582 | 47.17        |
| 49-50                                                                      | 55 356 | 908   | 16.40        | 20.54     | 54 902 | 60.46     | 1 136 783 | 48.69        |
| 50-51                                                                      | 54 448 | 932   | 17.12        | 19.87     | 53 982 | 57.92     | 1 081 881 | 50.33        |
| 51-52                                                                      | 53 516 | 957   | 17.88        | 19.21     | 53 038 | 55.42     | 1 027 899 | 52.06        |
| 52-53                                                                      | 52 559 | 984   | 18.72        | 18.55     | 52 067 | 52.91     | 974 861   | 53.91        |
| 53-54                                                                      | 51 575 | 1 017 | 19.72        | 17.89     | 51 067 | 50.21     | 922 794   | 55.90        |
| 54-55                                                                      | 50 558 | 1 059 | 20.95        | 17.24     | 50 029 | 47.24     | 871 727   | 58.00        |
| 55-56                                                                      | 49 499 | 1 106 | 22.34        | 16.60     | 48 946 | 44.25     | 821 698   | 60.24        |
| 56-57                                                                      | 48 393 | 1 158 | 23.93        | 15.97     | 47 814 | 41.29     | 772 752   | 62.62        |
| 57-58                                                                      | 47 235 | 1 221 | 25.86        | 15.35     | 46 624 | 38.19     | 724 938   | 65.15        |
| 58-59                                                                      | 46 014 | 1 290 | 28.02        | 14.74     | 45 369 | 35.17     | 678 314   | 67.84        |
| 59-60                                                                      | 44 724 | 1 352 | 30.24        | 14.15     | 44 048 | 32.58     | 633 945   | 70.67        |
| 60-61                                                                      | 43 372 | 1 411 | 32.53        | 13.58     | 42 666 | 30.24     | 588 897   | 73.64        |
| 61-62                                                                      | 41 961 | 1 463 | 34.86        | 13.02     | 41 230 | 28.18     | 546 231   | 76.80        |
| 62-63                                                                      | 40 498 | 1 507 | 37.21        | 12.47     | 39 745 | 26.37     | 505 001   | 80.19        |
| 63-64                                                                      | 38 991 | 1 549 | 39.73        | 11.93     | 38 217 | 24.67     | 465 256   | 83.82        |
| 64-65                                                                      | 37 442 | 1 595 | 42.60        | 11.41     | 36 645 | 22.97     | 427 039   | 87.64        |
| 65-66                                                                      | 35 847 | 1 639 | 45.73        | 10.89     | 35 027 | 21.37     | 390 394   | 91.83        |
| 66-67                                                                      | 34 208 | 1 682 | 49.16        | 10.39     | 33 367 | 19.84     | 355 367   | 96.25        |
| 67-68                                                                      | 32 526 | 1 727 | 53.11        | 9.90      | 31 662 | 18.33     | 322 000   | 101.01       |
| 68-69                                                                      | 30 799 | 1 772 | 57.51        | 9.43      | 29 913 | 16.88     | 290 338   | 106.04       |
| 69-70                                                                      | 29 027 | 1 804 | 62.18        | 8.97      | 28 125 | 15.59     | 260 425   | 111.48       |
| 70-71                                                                      | 27 223 | 1 829 | 67.16        | 8.53      | 26 308 | 14.38     | 232 300   | 117.23       |
| 71-72                                                                      | 25 394 | 1 842 | 72.56        | 8.11      | 24 473 | 13.29     | 205 992   | 123.30       |
| 72-73                                                                      | 23 552 | 1 834 | 77.85        | 7.71      | 22 635 | 12.34     | 181 519   | 129.70       |
| 73-74                                                                      | 21 718 | 1 801 | 82.94        | 7.32      | 20 817 | 11.56     | 158 884   | 136.61       |
| 74-75                                                                      | 19 917 | 1 757 | 88.19        | 6.93      | 19 038 | 10.84     | 138 067   | 144.30       |
| 75-76                                                                      | 18 160 | 1 712 | 94.29        | 6.55      | 17 304 | 10.11     | 119 029   | 152.67       |
| 76-77                                                                      | 16 448 | 1 670 | 101.54       | 6.18      | 15 613 | 9.35      | 101 725   | 161.81       |
| 77-78                                                                      | 14 778 | 1 623 | 109.84       | 5.83      | 13 966 | 8.61      | 86 112    | 171.53       |
| 78-79                                                                      | 13 155 | 1 569 | 119.25       | 5.48      | 12 370 | 7.88      | 72 146    | 182.48       |
| 79-80                                                                      | 11 586 | 1 503 | 129.72       | 5.16      | 10 835 | 7.21      | 59 776    | 193.80       |
| 80-81                                                                      | 10 083 | 1 422 | 141.05       | 4.85      | 9 372  | 6.59      | 48 941    | 206.19       |
| 81-82                                                                      | 8 661  | 1 325 | 153.01       | 4.57      | 7 998  | 6.01      | 39 569    | 218.82       |
| 82-83                                                                      | 7 336  | 1 213 | 165.38       | 4.30      | 6 729  | 5.55      | 31 571    | 232.56       |
| 83-84                                                                      | 6 123  | 1 090 | 177.99       | 4.06      | 5 578  | 5.12      | 24 812    | 246.31       |
| 84-85                                                                      | 5 033  | 960   | 190.79       | 3.83      | 4 553  | 4.74      | 19 264    | 261.10       |
| 85-86                                                                      | 4 073  | 831   | 203.84       | 3.61      | 3 658  | 4.41      | 14 711    | 277.01       |
| 86-87                                                                      | 3 242  | 704   | 217.25       | 3.41      | 2 890  | 4.10      | 11 053    | 293.26       |
| 87-88                                                                      | 2 538  | 587   | 231.20       | 3.22      | 2 245  | 3.83      | 8 163     | 310.56       |
| 88-89                                                                      | 1 951  | 479   | 245.83       | 3.03      | 1 711  | 3.57      | 5 918     | 330.03       |
| 89-90                                                                      | 1 472  | 385   | 261.26       | 2.86      | 1 279  | 3.33      | 4 207     | 349.65       |
| 90-91                                                                      | 1 087  | 302   | 277.52       | 2.69      | 936    | 3.10      | 2 928     | 371.75       |
| 91-92                                                                      | 785    | 231   | 294.63       | 2.54      | 670    | 2.89      | 1 992     | 393.70       |
| 92-93                                                                      | 554    | 173   | 312.61       | 2.39      | 467    | 2.70      | 1 322     | 418.41       |
| 93-94                                                                      | 381    | 126   | 331.47       | 2.25      | 318    | 2.52      | 855       | 444.44       |
| 94-95                                                                      | 255    | 90    | 351.31       | 2.11      | 210    | 2.35      | 537       | 473.93       |
| 95-96                                                                      | 165    | 61    | 371.96       | 1.98      | 134    | 2.19      | 327       | 505.05       |
| 96-97                                                                      | 104    | 41    | 393.75       | 1.86      | 83     | 2.04      | 193       | 537.63       |
| 97-98                                                                      | 63     | 26    | 416.62       | 1.75      | 50     | 1.90      | 110       | 571.43       |
| 98-99                                                                      | 37     | 16    | 440.61       | 1.64      | 29     | 1.77      | 60        | 609.76       |
| 99-100                                                                     | 21     | 10    | 465.74       | 1.53      | 16     | 1.65      | 31        | 653.59       |
| 100-101                                                                    | 11     | 5     | 492.04       | 1.44      | 8      | 1.53      | 15        | 694.44       |
| 101-102                                                                    | 6      | 3     | 519.53       | 1.34      | 4      | 1.42      | 7         | 746.27       |
| 102-103                                                                    | 3      | 2     | 548.22       | 1.26      | 2      | 1.32      | 3         | 793.65       |
| 103-104                                                                    | 1      | 1     | 578.13       | 1.17      | 1      | 1.23      | 1         | 854.70       |

TABLE 74

## LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (791,287), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

| AGE<br>INTERVAL.                                    | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000l_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH. |  |  |               |           |  |            |              |
|--------------------------------------------------------------------|--|--|---------------|-----------|--|------------|--------------|
| Months.                                                            |  |  | Monthly rate. | In years. |  | Per month. | Annual rate. |
| 0-1                                                                |  |  |               |           |  |            |              |
| 1-2                                                                |  |  |               |           |  |            |              |
| 2-3                                                                |  |  |               |           |  |            |              |
| 3-4                                                                |  |  |               |           |  |            |              |
| 4-5                                                                |  |  |               |           |  |            |              |
| 5-6                                                                |  |  |               |           |  |            |              |
| 6-7                                                                |  |  |               |           |  |            |              |
| 7-8                                                                |  |  |               |           |  |            |              |
| 8-9                                                                |  |  |               |           |  |            |              |
| 9-10                                                               |  |  |               |           |  |            |              |
| 10-11                                                              |  |  |               |           |  |            |              |
| 11-12                                                              |  |  |               |           |  |            |              |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR. |         |        |              |           |        |           |              |
|------------------------------------------------------------------|---------|--------|--------------|-----------|--------|-----------|--------------|
| Years.                                                           |         |        | Annual rate. | In years. |        | Per year. | Annual rate. |
| 0-1                                                              | 100 000 | 11 926 | 119.26       | 49.60     | 91 533 | 7.68      | 4 960 498    |
| 1-2                                                              | 88 074  | 3 033  | 34.44        | 55.28     | 86 285 | 28.15     | 4 868 965    |
| 2-3                                                              | 85 011  | 1 303  | 15.33        | 56.24     | 84 351 | 64.74     | 4 782 680    |
| 3-4                                                              | 83 738  | 865    | 10.33        | 56.11     | 83 289 | 96.29     | 4 698 329    |
| 4-5                                                              | 82 873  | 669    | 8.07         | 55.69     | 82 526 | 123.36    | 4 615 010    |
| 5-6                                                              | 82 204  | 515    | 6.27         | 55.14     | 81 947 | 159.12    | 4 532 514    |
| 6-7                                                              | 81 689  | 397    | 4.86         | 54.48     | 81 491 | 205.27    | 4 450 567    |
| 7-8                                                              | 81 292  | 309    | 3.81         | 53.75     | 81 138 | 262.58    | 4 369 076    |
| 8-9                                                              | 80 983  | 248    | 3.07         | 52.95     | 80 859 | 326.04    | 4 287 938    |
| 9-10                                                             | 80 735  | 209    | 2.59         | 52.11     | 80 630 | 385.79    | 4 207 079    |
| 10-11                                                            | 80 526  | 188    | 2.34         | 51.24     | 80 432 | 427.83    | 4 126 449    |
| 11-12                                                            | 80 338  | 182    | 2.26         | 50.36     | 80 247 | 440.92    | 4 046 017    |
| 12-13                                                            | 80 156  | 184    | 2.31         | 49.48     | 80 064 | 435.13    | 3 965 770    |
| 13-14                                                            | 79 972  | 195    | 2.44         | 48.59     | 79 874 | 409.61    | 3 885 706    |
| 14-15                                                            | 79 777  | 208    | 2.61         | 47.71     | 79 673 | 383.04    | 3 805 832    |
| 15-16                                                            | 79 569  | 226    | 2.84         | 46.83     | 79 466 | 351.58    | 3 726 159    |
| 16-17                                                            | 79 343  | 216    | 3.10         | 45.96     | 79 220 | 322.03    | 3 646 703    |
| 17-18                                                            | 79 097  | 272    | 3.44         | 45.10     | 78 961 | 290.30    | 3 567 483    |
| 18-19                                                            | 78 825  | 305    | 3.86         | 44.26     | 78 673 | 257.94    | 3 488 522    |
| 19-20                                                            | 78 520  | 338    | 4.31         | 43.43     | 78 351 | 231.81    | 3 409 849    |
| 20-21                                                            | 78 182  | 371    | 4.75         | 42.61     | 77 996 | 210.23    | 3 331 498    |
| 21-22                                                            | 77 811  | 405    | 5.19         | 41.81     | 77 608 | 191.62    | 3 253 502    |
| 22-23                                                            | 77 406  | 429    | 5.54         | 41.03     | 77 192 | 179.93    | 3 175 891    |
| 23-24                                                            | 76 977  | 443    | 5.76         | 40.25     | 76 756 | 173.26    | 3 098 702    |
| 24-25                                                            | 76 534  | 462    | 5.91         | 39.49     | 76 308 | 168.82    | 3 021 946    |
| 25-26                                                            | 76 082  | 462    | 6.08         | 38.72     | 75 851 | 164.18    | 2 945 638    |
| 26-27                                                            | 75 620  | 473    | 6.26         | 37.95     | 75 383 | 159.37    | 2 869 787    |
| 27-28                                                            | 75 147  | 481    | 6.44         | 37.19     | 74 905 | 154.76    | 2 794 404    |
| 28-29                                                            | 74 663  | 495    | 6.63         | 36.42     | 74 416 | 150.34    | 2 719 499    |
| 29-30                                                            | 74 168  | 507    | 6.83         | 35.66     | 73 915 | 145.79    | 2 645 083    |
| 30-31                                                            | 73 661  | 518    | 7.04         | 34.91     | 73 402 | 141.70    | 2 571 168    |
| 31-32                                                            | 73 143  | 529    | 7.23         | 34.15     | 72 879 | 137.77    | 2 497 766    |
| 32-33                                                            | 72 614  | 544    | 7.49         | 33.39     | 72 342 | 132.98    | 2 424 887    |
| 33-34                                                            | 72 070  | 563    | 7.82         | 32.64     | 71 789 | 127.51    | 2 352 545    |
| 34-35                                                            | 71 507  | 585    | 8.17         | 31.90     | 71 215 | 121.74    | 2 280 756    |
| 35-36                                                            | 70 922  | 604    | 8.52         | 31.15     | 70 620 | 116.92    | 2 209 541    |
| 36-37                                                            | 70 318  | 625    | 8.88         | 30.42     | 70 006 | 112.01    | 2 138 921    |
| 37-38                                                            | 69 693  | 639    | 9.18         | 29.69     | 69 373 | 108.56    | 2 068 915    |
| 38-39                                                            | 69 054  | 649    | 9.39         | 28.96     | 68 729 | 105.90    | 1 999 542    |
| 39-40                                                            | 68 405  | 653    | 9.55         | 28.23     | 68 079 | 104.26    | 1 930 813    |
| 40-41                                                            | 67 752  | 661    | 9.75         | 27.49     | 67 422 | 102.00    | 1 862 734    |
| 41-42                                                            | 67 091  | 669    | 9.97         | 26.76     | 66 757 | 99.79     | 1 795 312    |
| 42-43                                                            | 66 422  | 680    | 10.25        | 26.02     | 66 082 | 97.18     | 1 728 555    |
| 43-44                                                            | 65 742  | 697    | 10.60        | 25.29     | 65 394 | 93.82     | 1 662 473    |
| 44-45                                                            | 65 045  | 718    | 11.03        | 24.55     | 64 686 | 90.09     | 1 597 079    |

## THE CITY OF PHILADELPHIA: 1910.

## TABLE 74

REPORTED DEATHS IN 1909 (12,053), IN 1910 (12,790), AND IN 1911 (12,381).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

| AGE<br>INTERVAL.                                    | OF 100,000 FEMALES BORN<br>ALIVE:                |                                  | RATE OF<br>MORTALITY<br>PER<br>THOUSAND.                                                      | COMPLETE<br>EXPECTATION<br>OF LIFE.                                                          | STATIONARY FEMALE POPULATION,<br>Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4,<br>would result if 100,000 Females were Born Alive Uniformly Throughout Each Year. |                                             |                                                                               |                                                                                                                 |
|-----------------------------------------------------|--------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                                                     |                                                  |                                  |                                                                                               |                                                                                              | POPULATION IN<br>CURRENT AGE<br>INTERVAL.                                                                                                                                                                      | MEASURE OF<br>VITALITY.                     | POPULATION IN CUR-<br>RENT AND ALL OLDER<br>AGE INTERVALS.                    | DEATH RATE<br>PER THOUSAND.                                                                                     |
| Period of<br>lifetime<br>between two<br>exact ages. | Number alive<br>at beginning of<br>age interval. | Number dying<br>in age interval. | Number dying<br>in age interval<br>among 1,000<br>alive at begin-<br>ning of age<br>interval. | Average length<br>of life remaining<br>to each one alive<br>at beginning of<br>age interval. | Including only<br>those in current<br>month or year<br>of age.                                                                                                                                                 | Population<br>per death in<br>age interval. | Sum of numbers<br>in column 6 in cur-<br>rent and all older<br>age intervals. | Average annual<br>death rate per<br>thousand of pop-<br>ulation in cur-<br>rent and all older<br>age intervals. |
| $x$ to $x+1$                                        | $l_x$                                            | $d_x$                            | $1000q_x$                                                                                     | $e_x$                                                                                        | $L_x$                                                                                                                                                                                                          | $L_x/d_x$                                   | $T_x$                                                                         | $1000L_x/T_x$                                                                                                   |
| 1                                                   | 2                                                | 3                                | 4                                                                                             | 5                                                                                            | 6                                                                                                                                                                                                              | 7                                           | 8                                                                             | 9                                                                                                               |

| LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued. |        |       |              |           |        |           |           |              |
|----------------------------------------------------------------------------|--------|-------|--------------|-----------|--------|-----------|-----------|--------------|
| Years.                                                                     |        |       | Annual rate. | In years. |        | Per year. |           | Annual rate. |
| 45-46                                                                      | 64 927 | 739   | 11.50        | 23.82     | 63 958 | 86.55     | 1 532 393 | 41.98        |
| 46-47                                                                      | 62 388 | 763   | 11.99        | 23.09     | 63 207 | 82.84     | 1 468 435 | 43.31        |
| 47-48                                                                      | 62 825 | 794   | 12.64        | 22.37     | 62 428 | 78.62     | 1 405 228 | 44.70        |
| 48-49                                                                      | 62 931 | 836   | 13.49        | 21.65     | 61 613 | 73.70     | 1 342 800 | 46.19        |
| 49-50                                                                      | 61 295 | 886   | 14.48        | 20.94     | 60 752 | 68.57     | 1 281 187 | 47.76        |
| 50-51                                                                      | 60 309 | 937   | 15.53        | 20.24     | 59 840 | 63.86     | 1 220 435 | 49.41        |
| 51-52                                                                      | 59 372 | 989   | 16.66        | 19.55     | 58 878 | 59.53     | 1 160 595 | 51.15        |
| 52-53                                                                      | 58 383 | 1 038 | 17.78        | 18.87     | 57 864 | 55.75     | 1 101 717 | 52.99        |
| 53-54                                                                      | 57 315 | 1 083 | 18.89        | 18.20     | 56 803 | 52.45     | 1 043 853 | 54.95        |
| 54-55                                                                      | 56 262 | 1 133 | 20.13        | 17.54     | 55 695 | 49.16     | 987 050   | 57.01        |
| 55-56                                                                      | 55 129 | 1 192 | 21.62        | 16.89     | 54 533 | 45.75     | 931 355   | 59.21        |
| 56-57                                                                      | 53 937 | 1 262 | 23.39        | 16.26     | 53 306 | 42.24     | 876 822   | 61.50        |
| 57-58                                                                      | 52 675 | 1 346 | 25.55        | 15.63     | 52 002 | 38.63     | 823 616   | 63.98        |
| 58-59                                                                      | 51 329 | 1 432 | 27.90        | 15.03     | 50 613 | 35.34     | 771 514   | 66.53        |
| 59-60                                                                      | 49 897 | 1 506 | 30.19        | 14.45     | 49 144 | 32.63     | 720 901   | 69.20        |
| 60-61                                                                      | 48 391 | 1 572 | 32.47        | 13.88     | 47 605 | 30.28     | 671 757   | 72.05        |
| 61-62                                                                      | 46 819 | 1 624 | 34.70        | 13.33     | 46 007 | 28.33     | 624 152   | 75.02        |
| 62-63                                                                      | 45 195 | 1 671 | 36.96        | 12.79     | 44 359 | 26.55     | 578 145   | 78.19        |
| 63-64                                                                      | 43 524 | 1 720 | 39.53        | 12.26     | 42 664 | 24.80     | 533 786   | 81.57        |
| 64-65                                                                      | 41 804 | 1 779 | 42.55        | 11.75     | 40 914 | 23.00     | 491 122   | 85.11        |
| 65-66                                                                      | 40 025 | 1 834 | 45.81        | 11.25     | 39 108 | 21.32     | 450 208   | 88.89        |
| 66-67                                                                      | 38 191 | 1 888 | 49.44        | 10.76     | 37 247 | 19.73     | 411 100   | 92.94        |
| 67-68                                                                      | 36 303 | 1 932 | 53.22        | 10.30     | 35 337 | 18.29     | 373 853   | 97.09        |
| 68-69                                                                      | 34 371 | 1 950 | 56.74        | 9.85      | 33 396 | 17.13     | 338 516   | 101.53       |
| 69-70                                                                      | 32 421 | 1 944 | 59.96        | 9.41      | 31 449 | 16.18     | 305 120   | 106.27       |
| 70-71                                                                      | 30 477 | 1 931 | 63.35        | 8.98      | 29 512 | 15.28     | 273 671   | 111.36       |
| 71-72                                                                      | 28 516 | 1 913 | 67.03        | 8.55      | 27 590 | 14.42     | 244 159   | 116.96       |
| 72-73                                                                      | 26 633 | 1 906 | 71.57        | 8.13      | 25 680 | 13.47     | 216 569   | 123.00       |
| 73-74                                                                      | 24 727 | 1 898 | 76.74        | 7.72      | 23 778 | 12.53     | 190 889   | 129.53       |
| 74-75                                                                      | 22 829 | 1 885 | 82.58        | 7.32      | 21 886 | 11.61     | 167 111   | 136.61       |
| 75-76                                                                      | 20 944 | 1 866 | 89.09        | 6.93      | 20 011 | 10.72     | 145 225   | 144.30       |
| 76-77                                                                      | 19 078 | 1 835 | 96.18        | 6.56      | 18 160 | 9.90      | 125 214   | 152.44       |
| 77-78                                                                      | 17 243 | 1 789 | 103.74       | 6.21      | 16 349 | 9.14      | 107 051   | 161.03       |
| 78-79                                                                      | 15 454 | 1 725 | 111.67       | 5.87      | 14 591 | 8.46      | 90 705    | 170.36       |
| 79-80                                                                      | 13 729 | 1 647 | 119.93       | 5.54      | 12 905 | 7.84      | 76 114    | 180.51       |
| 80-81                                                                      | 12 082 | 1 553 | 128.56       | 5.23      | 11 305 | 7.28      | 63 209    | 191.20       |
| 81-82                                                                      | 10 529 | 1 450 | 137.69       | 4.93      | 9 804  | 6.76      | 51 901    | 202.84       |
| 82-83                                                                      | 9 079  | 1 339 | 147.51       | 4.64      | 8 409  | 6.28      | 42 100    | 215.52       |
| 83-84                                                                      | 7 710  | 1 225 | 158.29       | 4.35      | 7 127  | 5.82      | 33 691    | 229.89       |
| 84-85                                                                      | 6 515  | 1 110 | 170.32       | 4.08      | 5 960  | 5.37      | 26 564    | 245.10       |
| 85-86                                                                      | 5 405  | 993   | 183.81       | 3.81      | 4 908  | 4.94      | 20 604    | 262.47       |
| 86-87                                                                      | 4 412  | 878   | 198.90       | 3.56      | 3 973  | 4.53      | 15 696    | 280.90       |
| 87-88                                                                      | 3 534  | 762   | 215.64       | 3.32      | 3 153  | 4.11      | 11 723    | 301.20       |
| 88-89                                                                      | 2 772  | 617   | 233.59       | 3.09      | 2 449  | 3.78      | 8 570     | 323.62       |
| 89-90                                                                      | 2 125  | 537   | 252.77       | 2.88      | 1 856  | 3.46      | 6 121     | 347.22       |
| 90-91                                                                      | 1 588  | 433   | 272.82       | 2.69      | 1 371  | 3.17      | 4 265     | 371.75       |
| 91-92                                                                      | 1 155  | 339   | 293.50       | 2.51      | 985    | 2.91      | 2 894     | 398.41       |
| 92-93                                                                      | 816    | 257   | 314.75       | 2.34      | 687    | 2.68      | 1 909     | 427.35       |
| 93-94                                                                      | 559    | 188   | 336.67       | 2.18      | 465    | 2.47      | 1 222     | 458.72       |
| 94-95                                                                      | 371    | 133   | 359.44       | 2.04      | 304    | 2.28      | 757       | 490.20       |
| 95-96                                                                      | 238    | 92    | 383.30       | 1.90      | 192    | 2.11      | 453       | 526.32       |
| 96-97                                                                      | 146    | 59    | 408.49       | 1.77      | 117    | 1.95      | 261       | 564.97       |
| 97-98                                                                      | 87     | 38    | 435.19       | 1.65      | 68     | 1.80      | 144       | 606.06       |
| 98-99                                                                      | 49     | 23    | 463.43       | 1.53      | 38     | 1.66      | 76        | 653.59       |
| 99-100                                                                     | 26     | 13    | 493.11       | 1.42      | 20     | 1.53      | 38        | 704.23       |
| 100-101                                                                    | 13     | 7     | 524.10       | 1.32      | 10     | 1.41      | 18        | 757.58       |
| 101-102                                                                    | 6      | 3     | 556.07       | 1.23      | 5      | 1.30      | 8         | 813.01       |
| 102-103                                                                    | 3      | 2     | 588.97       | 1.11      | 2      | 1.20      | 3         | 877.19       |
| 103-104                                                                    | 1      | 1     | 622.76       | 1.06      | 1      | 1.11      | 1         | 943.40       |



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## PART III

LIFE TABLES OF FOREIGN COUNTRIES

MORTALITY TABLES BASED ON EXPERIENCE OF LIFE INSURANCE COMPANIES

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### PART III.—LIFE TABLES OF FOREIGN COUNTRIES.

#### FOREIGN COUNTRIES AND EPOCHS.

87. Life tables for twelve foreign countries are included in this part; the countries and the epochs for these tables are: Australia, 1901-1910; Denmark, 1906-1910; England, 1901-1910; France, 1898-1903; Germany, 1901-1910; Holland, 1900-1909; India, 1901-1910; Italy, 1901-1910; Japan, 1898-1903; Norway, 1901-1910; Sweden, 1901-1910; and Switzerland, 1901-1910. The United States life tables for white males and white females in the original registration states, 1901-1910, are shown for comparison with the life tables of these foreign countries. It will be observed that the countries are chosen which show mortality conditions in various sections of Europe. The life tables for India and Japan make it possible to compare mortality in this country and Europe with that of other races in the Orient. The life tables for Australia are the only ones given for persons living in the Southern Hemisphere. The tables are given by sex; those for males appear in Tables 75, 77, 79, 81, and 83, and those for females in Tables 76, 78, 80, 82, and 84, pages 204 to 223.

#### MORTALITY FUNCTIONS AND GRAPHS.

88. The mortality functions of foreign countries are not presented in the same form as the United States life tables. Only five of the columns appearing in the latter are shown for the life tables of foreign countries. These are the rate of mortality per thousand, the number of survivors out of 100,000 born alive, the number of deaths out of 100,000 born alive, the complete expectation of life,\* and the measure of vitality.†

In addition to the columns of figures giving the numerical values, graphs of the mortality functions are shown in Part IV. These graphs do not include curves for all the countries shown in the tables of mortality functions of foreign countries, but only for Australia,

England, Germany, India, Italy, Sweden, and the United States. In every case where graphs are shown the epoch covered is the decennium 1901-1910. These graphs make it easy to study the comparative rates of mortality, expectations of life, and other mortality functions of the different countries represented. The important differences and striking variations occurring in these tables and graphs are pointed out in sections 69-74 in the Questions and Answers of Part I of this text, page 44, which relate to foreign countries.

#### TABULAR FORM FACILITATES COMPARISON OF VALUES.

89. The values of the mortality functions of the foreign countries shown are taken from the published life tables of these countries,‡ based on their official population and death statistics, and are exhibited here in tabular form so that a comparison may be made at each age. For example, the rates of mortality per thousand for males in the twelve foreign countries and the United States are brought together on one page, so that it is easy to make a comparison of the rate of mortality at a given age in one country with that in any other country, or with that in the United States.

The number of survivors in all these tables is based upon the same radix, namely, 100,000 at birth. This enables one to tell the number of survivors at each age in every table and to make interesting comparisons between different countries. For example, a glance at Table 76, page 206, shows that in India less than half of the males born alive survive to age 11, while it is not until after age 58 in this country and age 65 in Sweden that half of the males born alive have died. Many interesting comparisons could be pointed out in connection with these tables and graphs, but the reader is referred for some of these to sections 69-74 in the Questions and Answers on pages 44 and 45.

\* The complete expectation of life, based on the graduated rates of mortality for Norway, was computed in the Bureau of the Census according to the formula  $\frac{1}{2} + \left( \sum_{x+1}^{\infty} l_x \right) / l_x$ . The  $l_x$  used to compute the values in Tables 81 and 82, pp. 216 to 219, were taken from Tables 77 and 78, respectively, pp. 208 to 211.

† The measure of vitality for the twelve foreign countries was computed in the Bureau of the Census according to the formula  $l_x/d_x - \frac{1}{2}$ . The  $l_x$  and  $d_x$  used to compute the values in Table 83, p. 220, were taken from Tables 77 and 79, pp. 208 and 212; those used to compute the values in Table 84, p. 222, from Tables 78 and 80, pp. 210 and 214. The values for the United States were copied from Tables 8 and 11, pp. 66 and 72 of this volume.

‡ Australian Life Table, 1901-1910, pp. 1, 2, 39, and 40, Commonwealth Bureau of Census and Statistics, Melbourne, 1914.

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CLII to CLV, Rome, 1917.

Cabinet Impérial, Bureau de la Statistique Générale, Table de Mortalité des Japonais, 1899-1903, pp. 2, 3, Tokio, 1912.

Norges Officielle Statistik. VI. 45, Dødelighetstabeller for det Norske Folk 1901-1910, pp. 29\* to 34\*, Kristiania, 1915.

Sveriges Officiella Statistik, Dödlighets- och Livslängdstabeller för Årtiondet 1901-1910, pp. 44 to 61, Stockholm, 1916.

Table Suisse de Survie pour les années 1901-1910, Résultats Statistiques du Recensement Général de la Population du 1<sup>er</sup> Decembre, 1910, deuxième volume, pp. 52\* to 57\*. Bümpliz-Berné, 1917.

(United States) Tables 8 and 11 of this volume, pp. 66, 67, 72, 73.

## UNITED STATES LIFE TABLES.

TABLE 75

## FOREIGN COUNTRIES. MALES. ANNUAL

TAKEN FROM THE PUBLISHED LIFE TABLES OF VARIOUS COUNTRIES, BASED ON THEIR OFFICIAL  
MAY BE MADE

| AGE.                                                        | AUSTRALIA:<br>1901-1910 | DENMARK:<br>1906-1910 | ENGLAND:<br>1901-1910<br>* | FRANCE:<br>1898-1903 | GERMANY:<br>1901-1910 | HOLLAND:<br>1900-1909 | INDIA:<br>1901-1910<br>* | ITALY:<br>1901-1910 | JAPAN:<br>1898-1903 | NORWAY:<br>1901-1910 | SWEDEN:<br>1901-1910 | SWITZER-<br>LAND:<br>1901-1910 | UNITED<br>STATES:<br>1901-1910<br>† |
|-------------------------------------------------------------|-------------------------|-----------------------|----------------------------|----------------------|-----------------------|-----------------------|--------------------------|---------------------|---------------------|----------------------|----------------------|--------------------------------|-------------------------------------|
| 1                                                           | 2                       | 3                     | 4                          | 5                    | 6                     | 7                     | 8                        | 9                   | 10                  | 11                   | 12                   | 13                             | 14                                  |
| MALES. RATE OF MORTALITY PER THOUSAND, 1000 <sub>qx</sub> . |                         |                       |                            |                      |                       |                       |                          |                     |                     |                      |                      |                                |                                     |
| 0                                                           | 95.10                   | 120.67                | 144.34                     | 163.26               | 202.34                | 140.46                | 289.08                   | 167.71              | 156.86              | 81.45                | 92.55                | 138.40                         | 127.38                              |
| 1                                                           | 17.50                   | 16.62                 | 40.39                      | 33.88                | 39.88                 | 35.55                 | 91.20                    | 70.40               | 36.86               | 18.36                | 22.77                | 21.98                          | 30.19                               |
| 2                                                           | 6.75                    | 6.79                  | 15.95                      | 18.91                | 14.92                 | 16.65                 | 65.70                    | 30.80               | 25.91               | 8.62                 | 10.90                | 9.78                           | 13.75                               |
| 3                                                           | 4.39                    | 4.48                  | 10.02                      | 11.91                | 9.47                  | 9.16                  | 48.30                    | 17.43               | 17.00               | 6.35                 | 7.87                 | 6.52                           | 8.80                                |
| 4                                                           | 3.49                    | 3.17                  | 7.40                       | 8.59                 | 6.91                  | 6.54                  | 36.00                    | 11.72               | 11.19               | 5.16                 | 6.10                 | 5.17                           | 6.47                                |
| 5                                                           | 2.81                    | 2.85                  | 5.42                       | 6.35                 | 5.28                  | 4.96                  | 27.50                    | 7.68                | 7.87                | 4.38                 | 5.02                 | 4.13                           | 5.24                                |
| 6                                                           | 2.35                    | 2.52                  | 3.98                       | 5.06                 | 4.25                  | 3.96                  | 21.70                    | 4.98                | 5.85                | 3.86                 | 4.35                 | 3.26                           | 4.43                                |
| 7                                                           | 2.09                    | 2.28                  | 2.97                       | 4.29                 | 3.56                  | 3.29                  | 17.70                    | 3.33                | 4.75                | 3.53                 | 4.01                 | 2.95                           | 3.75                                |
| 8                                                           | 1.96                    | 2.08                  | 2.33                       | 3.70                 | 3.03                  | 2.80                  | 15.20                    | 2.47                | 4.12                | 3.31                 | 3.54                 | 2.67                           | 3.23                                |
| 9                                                           | 1.84                    | 1.92                  | 1.96                       | 3.30                 | 2.67                  | 2.47                  | 13.50                    | 2.18                | 3.64                | 3.12                 | 3.23                 | 2.46                           | 2.85                                |
| 10                                                          | 1.79                    | 1.81                  | 1.82                       | 3.03                 | 2.44                  | 2.26                  | 12.50                    | 2.26                | 3.31                | 2.98                 | 3.22                 | 2.25                           | 2.61                                |
| 11                                                          | 1.79                    | 1.77                  | 1.83                       | 2.86                 | 2.24                  | 2.08                  | 12.00                    | 2.56                | 3.16                | 2.87                 | 2.96                 | 2.10                           | 2.51                                |
| 12                                                          | 1.84                    | 1.77                  | 1.95                       | 2.84                 | 2.11                  | 2.01                  | 11.90                    | 2.97                | 3.17                | 2.84                 | 2.80                 | 2.02                           | 2.54                                |
| 13                                                          | 1.98                    | 1.85                  | 2.14                       | 2.94                 | 2.15                  | 2.07                  | 12.20                    | 3.39                | 3.54                | 2.96                 | 2.76                 | 2.06                           | 2.67                                |
| 14                                                          | 2.25                    | 2.08                  | 2.37                       | 3.25                 | 2.38                  | 2.28                  | 12.60                    | 3.78                | 4.14                | 3.35                 | 2.85                 | 2.28                           | 2.90                                |
| 15                                                          | 2.55                    | 2.48                  | 2.01                       | 3.75                 | 2.77                  | 2.60                  | 13.20                    | 4.12                | 4.75                | 4.08                 | 3.22                 | 2.70                           | 3.19                                |
| 16                                                          | 2.81                    | 2.80                  | 2.85                       | 1.37                 | 3.27                  | 3.01                  | 14.00                    | 4.43                | 5.51                | 5.13                 | 3.88                 | 3.28                           | 3.56                                |
| 17                                                          | 3.03                    | 3.03                  | 3.00                       | 5.04                 | 3.82                  | 3.52                  | 14.70                    | 4.76                | 6.33                | 6.33                 | 4.52                 | 3.92                           | 3.99                                |
| 18                                                          | 3.31                    | 3.28                  | 3.32                       | 5.70                 | 4.36                  | 4.16                  | 15.50                    | 5.20                | 7.13                | 7.47                 | 5.33                 | 4.49                           | 4.45                                |
| 19                                                          | 3.49                    | 3.56                  | 3.55                       | 6.37                 | 4.81                  | 4.75                  | 16.20                    | 5.70                | 7.81                | 8.46                 | 5.94                 | 4.91                           | 4.91                                |
| 20                                                          | 3.70                    | 3.86                  | 3.78                       | 6.99                 | 5.04                  | 5.07                  | 16.90                    | 6.19                | 8.30                | 9.07                 | 6.41                 | 5.16                           | 5.46                                |
| 21                                                          | 3.91                    | 4.05                  | 4.00                       | 7.51                 | 5.07                  | 5.14                  | 17.60                    | 6.61                | 8.60                | 9.32                 | 6.53                 | 5.29                           | 5.85                                |
| 22                                                          | 4.04                    | 4.20                  | 4.19                       | 7.80                 | 5.04                  | 5.11                  | 18.20                    | 6.89                | 8.72                | 9.38                 | 6.46                 | 5.36                           | 6.03                                |
| 23                                                          | 4.18                    | 4.33                  | 4.34                       | 7.82                 | 5.03                  | 5.08                  | 18.90                    | 6.99                | 8.70                | 9.28                 | 6.49                 | 5.40                           | 6.08                                |
| 24                                                          | 4.34                    | 4.18                  | 4.44                       | 7.70                 | 5.07                  | 5.02                  | 19.60                    | 6.96                | 8.56                | 9.06                 | 6.38                 | 5.47                           | 6.16                                |
| 25                                                          | 4.48                    | 4.04                  | 4.54                       | 7.52                 | 5.13                  | 4.92                  | 20.30                    | 6.85                | 8.38                | 8.78                 | 6.28                 | 5.56                           | 6.22                                |
| 26                                                          | 4.64                    | 4.10                  | 4.60                       | 7.35                 | 5.18                  | 4.81                  | 21.00                    | 6.73                | 8.18                | 8.48                 | 6.28                 | 5.70                           | 6.33                                |
| 27                                                          | 4.78                    | 4.15                  | 4.83                       | 7.33                 | 5.22                  | 4.76                  | 21.60                    | 6.67                | 8.00                | 8.21                 | 6.14                 | 5.84                           | 6.52                                |
| 28                                                          | 4.94                    | 4.22                  | 5.07                       | 7.44                 | 5.30                  | 4.76                  | 22.30                    | 6.66                | 7.89                | 7.95                 | 6.14                 | 5.98                           | 6.79                                |
| 29                                                          | 5.03                    | 4.30                  | 5.35                       | 7.61                 | 5.42                  | 4.79                  | 23.00                    | 6.65                | 7.85                | 7.74                 | 6.14                 | 6.08                           | 7.04                                |
| 30                                                          | 5.19                    | 4.47                  | 5.66                       | 7.66                 | 5.56                  | 4.75                  | 23.50                    | 6.67                | 7.87                | 7.57                 | 6.04                 | 6.20                           | 7.31                                |
| 31                                                          | 5.40                    | 4.63                  | 5.99                       | 8.14                 | 5.71                  | 4.68                  | 24.40                    | 6.70                | 7.95                | 7.42                 | 6.06                 | 6.36                           | 7.62                                |
| 32                                                          | 5.58                    | 4.78                  | 6.32                       | 8.46                 | 5.91                  | 4.72                  | 25.20                    | 6.76                | 8.08                | 7.35                 | 6.06                 | 6.60                           | 7.97                                |
| 33                                                          | 5.79                    | 4.96                  | 6.64                       | 8.76                 | 6.21                  | 4.85                  | 26.10                    | 6.84                | 8.25                | 7.31                 | 6.00                 | 6.89                           | 8.34                                |
| 34                                                          | 6.04                    | 5.15                  | 6.98                       | 9.09                 | 6.60                  | 5.18                  | 26.90                    | 6.94                | 8.45                | 7.31                 | 6.07                 | 7.22                           | 8.73                                |
| 35                                                          | 6.33                    | 5.28                  | 7.32                       | 9.42                 | 6.97                  | 5.37                  | 27.80                    | 7.06                | 8.69                | 7.35                 | 6.37                 | 7.54                           | 9.14                                |
| 36                                                          | 6.63                    | 5.48                  | 7.69                       | 9.76                 | 7.34                  | 5.59                  | 28.70                    | 7.23                | 8.96                | 7.40                 | 6.39                 | 7.89                           | 9.49                                |
| 37                                                          | 6.98                    | 5.77                  | 8.07                       | 10.09                | 7.78                  | 5.84                  | 29.60                    | 7.45                | 9.27                | 7.47                 | 6.54                 | 8.29                           | 9.75                                |
| 38                                                          | 7.36                    | 6.11                  | 8.47                       | 10.37                | 8.27                  | 6.11                  | 30.50                    | 7.74                | 9.61                | 7.55                 | 6.74                 | 8.77                           | 9.95                                |
| 39                                                          | 7.78                    | 6.47                  | 8.88                       | 10.68                | 8.73                  | 6.45                  | 31.40                    | 8.09                | 9.99                | 7.67                 | 7.15                 | 9.28                           | 10.18                               |
| 40                                                          | 8.16                    | 6.89                  | 9.31                       | 11.04                | 9.22                  | 6.79                  | 32.30                    | 8.48                | 10.40               | 7.78                 | 7.57                 | 9.83                           | 10.40                               |
| 41                                                          | 8.60                    | 7.37                  | 9.79                       | 11.47                | 9.80                  | 7.10                  | 33.20                    | 8.88                | 10.87               | 7.94                 | 7.79                 | 10.38                          | 10.70                               |
| 42                                                          | 9.10                    | 7.84                  | 10.32                      | 11.94                | 10.41                 | 7.42                  | 34.20                    | 9.27                | 11.38               | 8.12                 | 8.03                 | 11.00                          | 11.16                               |
| 43                                                          | 9.65                    | 8.32                  | 10.91                      | 12.46                | 10.99                 | 7.83                  | 35.20                    | 9.62                | 11.94               | 8.36                 | 8.30                 | 11.67                          | 11.74                               |
| 44                                                          | 10.24                   | 8.89                  | 11.55                      | 13.03                | 11.66                 | 8.44                  | 36.10                    | 9.90                | 12.68               | 8.63                 | 8.54                 | 12.39                          | 12.37                               |
| 45                                                          | 10.83                   | 9.38                  | 12.23                      | 13.63                | 12.44                 | 8.96                  | 37.20                    | 10.31               | 13.28               | 8.92                 | 9.25                 | 13.08                          | 13.10                               |
| 46                                                          | 11.42                   | 9.75                  | 12.98                      | 14.29                | 13.19                 | 9.40                  | 38.20                    | 10.72               | 14.04               | 9.26                 | 9.42                 | 13.79                          | 13.76                               |
| 47                                                          | 12.04                   | 10.15                 | 13.79                      | 14.90                | 13.97                 | 9.94                  | 39.30                    | 11.25               | 14.87               | 9.64                 | 10.01                | 14.57                          | 14.22                               |
| 48                                                          | 12.61                   | 10.61                 | 14.66                      | 15.64                | 14.89                 | 10.61                 | 40.40                    | 11.90               | 15.77               | 10.07                | 9.86                 | 15.53                          | 14.54                               |
| 49                                                          | 13.27                   | 11.16                 | 15.58                      | 16.32                | 15.88                 | 11.18                 | 41.60                    | 12.64               | 16.73               | 10.58                | 10.92                | 16.65                          | 14.92                               |

\* 1000<sub>qx</sub> is copied in each case to the nearest second decimal. When only the first decimal was given a cipher was added.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

TABLE 75

## RATE OF MORTALITY PER THOUSAND.

POPULATION AND DEATH STATISTICS, AND EXHIBITED HERE IN TABULAR FORM SO THAT A COMPARISON AT EACH AGE.

| AGE.                                                 | AUSTRALIA:<br>1901-1910 | DENMARK:<br>1906-1910 | ENGLAND:<br>1901-1910<br>* | FRANCE:<br>1898-1903 | GERMANY:<br>1901-1910 | HOLLAND:<br>1900-1909 | INDIA:<br>1901-1910<br>* | ITALY:<br>1901-1910 | JAPAN:<br>1898-1903 | NORWAY:<br>1901-1910 | SWEDEN:<br>1901-1910 | SWITZER-<br>LAND:<br>1901-1910 | UNITED<br>STATES:<br>1901-1910<br>† |
|------------------------------------------------------|-------------------------|-----------------------|----------------------------|----------------------|-----------------------|-----------------------|--------------------------|---------------------|---------------------|----------------------|----------------------|--------------------------------|-------------------------------------|
| 1                                                    | 2                       | 3                     | 4                          | 5                    | 6                     | 7                     | 8                        | 9                   | 10                  | 11                   | 12                   | 13                             | 14                                  |
| RATE OF MORTALITY PER THOUSAND, 1000q <sub>x</sub> . |                         |                       |                            |                      |                       |                       |                          |                     |                     |                      |                      |                                |                                     |
| MALES                                                |                         |                       |                            |                      |                       |                       |                          |                     |                     |                      |                      |                                |                                     |
| 50                                                   | 13.95                   | 11.87                 | 16.57                      | 17.01                | 16.93                 | 11.77                 | 42.80                    | 13.45               | 17.75               | 11.11                | 11.24                | 17.88                          | 15.28                               |
| 51                                                   | 14.63                   | 12.66                 | 17.60                      | 17.73                | 18.09                 | 12.46                 | 44.00                    | 14.32               | 18.87               | 11.67                | 12.13                | 19.16                          | 15.85                               |
| 52                                                   | 15.38                   | 13.57                 | 18.85                      | 18.48                | 19.30                 | 13.29                 | 45.40                    | 15.21               | 20.09               | 12.29                | 12.75                | 20.50                          | 16.83                               |
| 53                                                   | 16.22                   | 14.61                 | 20.16                      | 19.31                | 20.54                 | 14.38                 | 46.80                    | 16.05               | 21.41               | 12.88                | 13.46                | 21.91                          | 18.18                               |
| 54                                                   | 17.14                   | 15.83                 | 21.56                      | 20.32                | 21.95                 | 15.61                 | 48.30                    | 16.85               | 22.88               | 13.50                | 14.45                | 23.35                          | 19.66                               |
| 55                                                   | 18.16                   | 17.07                 | 23.08                      | 21.53                | 23.57                 | 16.86                 | 49.90                    | 17.73               | 24.48               | 14.16                | 15.26                | 24.85                          | 21.38                               |
| 56                                                   | 19.34                   | 18.44                 | 24.72                      | 22.99                | 25.12                 | 18.07                 | 51.50                    | 18.83               | 26.24               | 14.89                | 15.69                | 26.49                          | 23.18                               |
| 57                                                   | 20.71                   | 19.78                 | 26.49                      | 24.72                | 26.62                 | 19.44                 | 53.40                    | 20.28               | 28.16               | 15.71                | 16.64                | 28.40                          | 24.83                               |
| 58                                                   | 22.29                   | 21.41                 | 28.39                      | 26.61                | 28.37                 | 20.90                 | 55.40                    | 22.11               | 30.27               | 16.67                | 17.69                | 30.62                          | 26.37                               |
| 59                                                   | 24.00                   | 22.74                 | 30.44                      | 28.64                | 30.39                 | 22.47                 | 57.50                    | 24.25               | 32.56               | 17.81                | 19.38                | 32.09                          | 28.09                               |
| 60                                                   | 25.84                   | 23.69                 | 32.62                      | 30.84                | 32.60                 | 24.29                 | 59.80                    | 26.62               | 35.06               | 19.14                | 20.66                | 35.43                          | 29.90                               |
| 61                                                   | 27.88                   | 25.67                 | 34.96                      | 33.16                | 35.11                 | 25.93                 | 62.40                    | 29.17               | 37.78               | 20.66                | 22.89                | 37.88                          | 31.93                               |
| 62                                                   | 30.12                   | 27.46                 | 37.45                      | 35.64                | 37.87                 | 28.26                 | 65.30                    | 31.84               | 40.74               | 22.40                | 23.13                | 40.52                          | 34.32                               |
| 63                                                   | 32.57                   | 29.48                 | 40.03                      | 38.28                | 40.83                 | 31.20                 | 68.30                    | 34.44               | 43.97               | 24.34                | 26.22                | 43.44                          | 37.04                               |
| 64                                                   | 35.37                   | 31.55                 | 42.69                      | 41.14                | 43.91                 | 33.95                 | 71.70                    | 37.01               | 47.46               | 26.47                | 27.87                | 46.75                          | 39.88                               |
| 65                                                   | 38.59                   | 34.03                 | 45.57                      | 44.30                | 47.06                 | 37.20                 | 75.50                    | 39.83               | 51.24               | 28.80                | 30.04                | 50.42                          | 42.92                               |
| 66                                                   | 42.30                   | 37.04                 | 48.80                      | 47.93                | 50.73                 | 40.73                 | 79.80                    | 43.19               | 55.22               | 31.27                | 32.21                | 54.46                          | 46.05                               |
| 67                                                   | 46.44                   | 40.44                 | 52.53                      | 52.04                | 55.13                 | 44.05                 | 84.30                    | 47.38               | 59.52               | 33.85                | 36.54                | 58.82                          | 49.22                               |
| 68                                                   | 51.06                   | 44.14                 | 56.85                      | 56.76                | 59.67                 | 47.91                 | 89.50                    | 52.13               | 64.14               | 36.58                | 38.69                | 63.54                          | 52.53                               |
| 69                                                   | 56.11                   | 48.46                 | 61.72                      | 62.20                | 64.20                 | 52.51                 | 95.50                    | 58.15               | 69.10               | 39.51                | 41.96                | 68.57                          | 56.11                               |
| 70                                                   | 61.62                   | 53.63                 | 67.08                      | 68.32                | 69.36                 | 57.43                 | 101.70                   | 61.49               | 74.45               | 42.76                | 46.40                | 73.93                          | 59.90                               |
| 71                                                   | 67.60                   | 58.19                 | 72.87                      | 75.05                | 75.60                 | 62.11                 | 109.10                   | 71.38               | 80.22               | 46.46                | 50.54                | 79.58                          | 64.31                               |
| 72                                                   | 74.15                   | 62.37                 | 79.02                      | 82.28                | 82.63                 | 67.95                 | 117.30                   | 78.78               | 86.40               | 50.71                | 55.49                | 85.73                          | 69.63                               |
| 73                                                   | 81.22                   | 67.48                 | 85.66                      | 89.69                | 89.91                 | 74.97                 | 126.30                   | 86.35               | 92.96               | 55.57                | 60.56                | 92.47                          | 75.79                               |
| 74                                                   | 88.62                   | 73.67                 | 92.90                      | 99.08                | 97.71                 | 81.81                 | 136.60                   | 91.13               | 99.84               | 60.97                | 67.43                | 100.16                         | 82.54                               |
| 75                                                   | 96.10                   | 80.79                 | 100.62                     | 108.70               | 106.40                | 89.21                 | 148.00                   | 102.62              | 107.50              | 66.91                | 74.60                | 108.89                         | 90.15                               |
| 76                                                   | 103.69                  | 89.22                 | 108.67                     | 119.40               | 115.35                | 97.54                 | 160.90                   | 112.31              | 115.80              | 73.38                | 81.03                | 118.91                         | 98.03                               |
| 77                                                   | 111.58                  | 99.60                 | 116.88                     | 131.00               | 124.63                | 106.10                | 174.80                   | 123.69              | 124.70              | 80.48                | 89.86                | 130.00                         | 105.76                              |
| 78                                                   | 119.88                  | 110.13                | 125.00                     | 143.90               | 135.09                | 114.50                | 191.40                   | 137.38              | 134.30              | 88.26                | 101.02               | 142.01                         | 113.64                              |
| 79                                                   | 128.68                  | 120.22                | 133.12                     | 156.60               | 146.19                | 125.40                | 209.20                   | 153.05              | 144.70              | 96.89                | 109.43               | 154.33                         | 122.81                              |
| 80                                                   | 137.95                  | 131.97                | 141.63                     | 167.80               | 157.87                | 137.00                | 228.70                   | 169.78              | 155.80              | 106.34               | 120.81               | 166.92                         | 133.66                              |
| 81                                                   | 147.74                  | 144.32                | 150.95                     | 177.60               | 170.82                | 148.10                | 251.30                   | 186.64              | 167.80              | 116.61               | 130.97               | 179.37                         | 145.39                              |
| 82                                                   | 158.76                  | 156.19                | 161.58                     | 188.90               | 184.77                | 159.80                | 275.20                   | 202.71              | 180.70              | 127.55               | 146.57               | 192.02                         | 156.97                              |
| 83                                                   | 170.91                  | 170.00                | 173.92                     | 202.30               | 199.62                | 173.50                | 300.90                   | 218.56              | 194.60              | 139.11               | 159.08               | 204.55                         | 169.30                              |
| 84                                                   | 183.66                  | 181.95                | 187.87                     | 218.20               | 215.41                | 188.30                | 331.10                   | 231.71              | 209.60              | 151.27               | 176.99               | 217.86                         | 182.08                              |
| 85                                                   | 197.01                  | 191.64                | 203.15                     | 230.50               | 231.60                | 204.00                | 366.30                   | 251.60              | 225.80              | 164.09               | 192.27               | 232.16                         | 195.04                              |
| 86                                                   | 210.92                  | 202.22                | 219.44                     | 239.20               | 248.05                | 217.00                | 398.40                   | 269.62              | 243.20              | 177.47               | 210.76               | 248.87                         | 208.05                              |
| 87                                                   | 225.73                  | 224.32                | 236.32                     | 248.00               | 265.12                | 229.00                | 428.60                   | 289.10              | 261.90              | 191.23               | 225.22               | 267.12                         | 221.09                              |
| 88                                                   | 241.82                  | 257.39                | 254.59                     | 257.20               | 283.07                | 244.00                | 477.30                   | 310.32              | 282.10              | 205.42               | 244.96               | 286.27                         | 234.23                              |
| 89                                                   | 259.07                  | 281.58                | 274.75                     | 266.90               | 301.51                | 260.00                | 521.70                   | 333.49              | 303.80              | 220.14               | 269.07               | 303.04                         | 247.63                              |
| 90                                                   | 277.36                  | 290.48                | 295.66                     | 276.80               | 320.02                | 290.00                | 545.50                   | 358.74              | 327.20              | 235.78               | 286.99               | 317.20                         | 261.45                              |
| 91                                                   | 296.60                  | .....                 | 315.91                     | 287.70               | 338.74                | 350.00                | 600.00                   | 386.18              | 352.40              | 252.33               | 304.41               | 329.24                         | 275.88                              |
| 92                                                   | 316.72                  | .....                 | 333.81                     | 299.50               | 357.67                | 410.00                | 500.00                   | 415.82              | 379.50              | 270.46               | 325.43               | 344.21                         | 290.92                              |
| 93                                                   | 337.57                  | .....                 | 348.60                     | 312.20               | 376.61                | 470.00                | 1000.00                  | 447.65              | 408.70              | 290.03               | 340.11               | 364.63                         | 306.60                              |
| 94                                                   | 359.07                  | .....                 | 360.31                     | 326.10               | 395.43                | 530.00                | .....                    | 481.56              | 440.20              | 309.61               | 369.10               | 392.39                         | 322.91                              |
| 95                                                   | 381.11                  | .....                 | 369.66                     | 341.50               | 413.99                | 600.00                | .....                    | 517.41              | 474.00              | 329.32               | 398.02               | 425.31                         | 339.81                              |
| 96                                                   | 403.60                  | .....                 | 378.06                     | 358.20               | 432.13                | 700.00                | .....                    | 554.99              | 510.60              | 349.30               | 416.98               | 463.23                         | 357.34                              |
| 97                                                   | 426.41                  | .....                 | 387.50                     | 376.80               | 449.67                | 800.00                | .....                    | 594.01              | 549.80              | 371.00               | 419.11               | 506.15                         | 375.58                              |
| 98                                                   | 449.46                  | .....                 | 400.59                     | 400.00               | 466.41                | 900.00                | .....                    | 634.16              | 592.20              | 395.00               | 428.93               | 555.88                         | 394.71                              |
| 99                                                   | 480.02                  | .....                 | 420.31                     | 425.00               | 482.16                | 1000.00               | .....                    | 675.03              | 637.80              | 419.00               | 480.71               | 612.53                         | 414.95                              |
| 100                                                  | 525.36                  | .....                 | 449.69                     | 460.00               | 496.68                | .....                 | .....                    | .....               | 686.90              | 458.00               | 495.00               | 675.97                         | 436.52                              |

\* 1000q<sub>x</sub> is copied in each case to the nearest second decimal. When only the first decimal was given a cipher was added.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

## UNITED STATES LIFE TABLES.

TABLE 76

FOREIGN COUNTRIES. FEMALES. ANNUAL

TAKEN FROM THE PUBLISHED LIFE TABLES OF VARIOUS COUNTRIES, BASED ON THEIR OFFICIAL  
MAY BE MADE

| AGE.                                                          | AUSTRALIA:<br>1901-1910 | DENMARK:<br>1906-1910 | ENGLAND:<br>1901-1910<br>* | FRANCE:<br>1898-1903 | GERMANY:<br>1901-1910 | HOLLAND:<br>1900-1909 | INDIA:<br>1901-1910<br>† | ITALY:<br>1901-1910 | JAPAN:<br>1898-1903 | NORWAY:<br>1901-1910 | SWEDEN:<br>1901-1910 | SWITZER-<br>LAND:<br>1901-1910 | UNITED<br>STATES:<br>1901-1910<br>† |
|---------------------------------------------------------------|-------------------------|-----------------------|----------------------------|----------------------|-----------------------|-----------------------|--------------------------|---------------------|---------------------|----------------------|----------------------|--------------------------------|-------------------------------------|
| 1                                                             | 2                       | 3                     | 4                          | 5                    | 6                     | 7                     | 8                        | 9                   | 10                  | 11                   | 12                   | 13                             | 14                                  |
| FEMALES. RATE OF MORTALITY PER THOUSAND, 1000q <sub>x</sub> . |                         |                       |                            |                      |                       |                       |                          |                     |                     |                      |                      |                                |                                     |
| 0                                                             | 79.53                   | 97.71                 | 117.43                     | 136.49               | 170.48                | 117.69                | 284.60                   | 152.11              | 140.92              | 66.79                | 75.99                | 112.58                         | 105.51                              |
| 1                                                             | 16.65                   | 15.99                 | 37.64                      | 31.66                | 38.47                 | 34.22                 | 86.20                    | 71.36               | 35.08               | 16.76                | 21.21                | 21.61                          | 27.43                               |
| 2                                                             | 6.29                    | 6.29                  | 15.26                      | 17.54                | 14.63                 | 15.71                 | 61.60                    | 31.85               | 26.02               | 9.03                 | 10.32                | 9.45                           | 12.61                               |
| 3                                                             | 4.11                    | 4.41                  | 10.05                      | 11.57                | 9.25                  | 8.20                  | 45.10                    | 17.89               | 17.32               | 6.18                 | 7.58                 | 6.25                           | 8.28                                |
| 4                                                             | 3.24                    | 3.19                  | 7.48                       | 8.67                 | 6.84                  | 5.95                  | 33.70                    | 12.43               | 11.68               | 4.91                 | 6.14                 | 4.82                           | 6.10                                |
| 5                                                             | 2.58                    | 2.57                  | 5.53                       | 6.49                 | 5.31                  | 4.63                  | 26.20                    | 8.50                | 8.10                | 4.28                 | 5.16                 | 4.66                           | 5.00                                |
| 6                                                             | 2.14                    | 2.34                  | 4.12                       | 5.20                 | 4.38                  | 3.76                  | 21.20                    | 5.83                | 5.96                | 3.83                 | 4.36                 | 3.20                           | 4.16                                |
| 7                                                             | 1.91                    | 2.23                  | 3.13                       | 4.45                 | 3.73                  | 3.16                  | 17.80                    | 4.14                | 4.81                | 3.50                 | 3.79                 | 2.91                           | 3.47                                |
| 8                                                             | 1.75                    | 2.15                  | 2.50                       | 3.88                 | 3.19                  | 2.74                  | 15.40                    | 3.22                | 4.22                | 3.29                 | 3.66                 | 2.67                           | 2.94                                |
| 9                                                             | 1.63                    | 2.10                  | 2.14                       | 3.50                 | 2.80                  | 2.46                  | 14.00                    | 2.87                | 3.91                | 3.18                 | 3.31                 | 2.44                           | 2.57                                |
| 10                                                            | 1.59                    | 2.08                  | 1.99                       | 3.28                 | 2.56                  | 2.28                  | 12.90                    | 2.90                | 3.77                | 3.19                 | 3.25                 | 2.26                           | 2.36                                |
| 11                                                            | 1.63                    | 2.11                  | 1.98                       | 3.23                 | 2.42                  | 2.22                  | 12.40                    | 3.19                | 3.85                | 3.29                 | 3.16                 | 2.24                           | 2.29                                |
| 12                                                            | 1.75                    | 2.21                  | 2.07                       | 3.34                 | 2.41                  | 2.28                  | 12.30                    | 3.60                | 4.21                | 3.53                 | 3.20                 | 2.40                           | 2.34                                |
| 13                                                            | 1.84                    | 2.31                  | 2.22                       | 3.63                 | 2.54                  | 2.45                  | 12.40                    | 4.06                | 4.81                | 3.83                 | 3.56                 | 2.75                           | 2.51                                |
| 14                                                            | 2.00                    | 2.55                  | 2.40                       | 4.03                 | 2.75                  | 2.79                  | 12.80                    | 4.50                | 5.56                | 4.19                 | 3.82                 | 3.21                           | 2.76                                |
| 15                                                            | 2.19                    | 2.91                  | 2.58                       | 4.47                 | 3.02                  | 3.21                  | 13.40                    | 4.89                | 6.38                | 4.58                 | 4.10                 | 3.51                           | 3.09                                |
| 16                                                            | 2.44                    | 3.18                  | 2.74                       | 4.89                 | 3.34                  | 3.52                  | 14.10                    | 5.22                | 7.24                | 4.96                 | 4.61                 | 4.35                           | 3.45                                |
| 17                                                            | 2.69                    | 3.36                  | 2.89                       | 5.27                 | 3.61                  | 3.61                  | 14.80                    | 5.53                | 8.06                | 5.33                 | 4.84                 | 4.79                           | 3.80                                |
| 18                                                            | 2.90                    | 3.52                  | 3.02                       | 5.62                 | 3.81                  | 3.60                  | 15.60                    | 5.86                | 8.76                | 5.64                 | 5.00                 | 5.08                           | 4.15                                |
| 19                                                            | 3.10                    | 3.67                  | 3.14                       | 5.95                 | 4.01                  | 3.66                  | 16.30                    | 6.18                | 9.29                | 5.91                 | 5.05                 | 5.26                           | 4.51                                |
| 20                                                            | 3.29                    | 3.78                  | 3.25                       | 6.27                 | 4.22                  | 3.84                  | 17.00                    | 6.48                | 9.64                | 6.13                 | 5.26                 | 5.40                           | 4.90                                |
| 21                                                            | 3.49                    | 3.88                  | 3.37                       | 6.54                 | 4.44                  | 4.05                  | 17.60                    | 6.74                | 9.85                | 6.31                 | 5.53                 | 5.56                           | 5.21                                |
| 22                                                            | 3.70                    | 4.00                  | 3.40                       | 6.80                 | 4.70                  | 4.16                  | 18.20                    | 6.96                | 9.94                | 6.44                 | 5.68                 | 5.73                           | 5.43                                |
| 23                                                            | 3.88                    | 4.15                  | 3.61                       | 7.03                 | 4.98                  | 4.22                  | 18.80                    | 7.12                | 9.96                | 6.54                 | 5.61                 | 5.91                           | 5.59                                |
| 24                                                            | 4.09                    | 4.31                  | 3.73                       | 7.22                 | 5.21                  | 4.31                  | 19.40                    | 7.24                | 9.95                | 6.61                 | 5.70                 | 6.06                           | 5.75                                |
| 25                                                            | 4.30                    | 4.44                  | 3.86                       | 7.35                 | 5.37                  | 4.48                  | 20.00                    | 7.33                | 9.92                | 6.66                 | 5.96                 | 6.18                           | 5.91                                |
| 26                                                            | 4.48                    | 4.55                  | 4.00                       | 7.42                 | 5.50                  | 4.68                  | 20.60                    | 7.39                | 9.90                | 6.71                 | 6.06                 | 6.27                           | 6.07                                |
| 27                                                            | 4.69                    | 4.69                  | 4.17                       | 7.42                 | 5.64                  | 4.79                  | 21.20                    | 7.46                | 9.90                | 6.75                 | 5.96                 | 6.36                           | 6.25                                |
| 28                                                            | 4.89                    | 4.77                  | 4.37                       | 7.45                 | 5.78                  | 4.88                  | 21.80                    | 7.52                | 9.90                | 6.79                 | 5.95                 | 6.45                           | 6.45                                |
| 29                                                            | 5.03                    | 4.83                  | 4.60                       | 7.52                 | 5.87                  | 5.01                  | 22.40                    | 7.55                | 9.93                | 6.85                 | 6.01                 | 6.54                           | 6.65                                |
| 30                                                            | 5.19                    | 4.87                  | 4.84                       | 7.59                 | 5.97                  | 5.17                  | 23.10                    | 7.58                | 9.98                | 6.93                 | 6.12                 | 6.63                           | 6.87                                |
| 31                                                            | 5.40                    | 4.97                  | 5.10                       | 7.68                 | 6.11                  | 5.30                  | 23.70                    | 7.61                | 10.06               | 7.03                 | 6.01                 | 6.74                           | 7.07                                |
| 32                                                            | 5.58                    | 5.10                  | 5.36                       | 7.78                 | 6.28                  | 5.58                  | 24.40                    | 7.66                | 10.17               | 7.14                 | 6.01                 | 6.84                           | 7.26                                |
| 33                                                            | 5.79                    | 5.19                  | 5.62                       | 7.92                 | 6.45                  | 5.75                  | 25.10                    | 7.73                | 10.31               | 7.26                 | 6.18                 | 6.96                           | 7.43                                |
| 34                                                            | 5.99                    | 5.35                  | 5.89                       | 8.06                 | 6.65                  | 5.84                  | 25.60                    | 7.81                | 10.48               | 7.37                 | 6.36                 | 7.08                           | 7.60                                |
| 35                                                            | 6.17                    | 5.50                  | 6.17                       | 8.20                 | 6.86                  | 5.97                  | 26.60                    | 7.89                | 10.67               | 7.43                 | 6.50                 | 7.22                           | 7.77                                |
| 36                                                            | 6.38                    | 5.58                  | 6.46                       | 8.32                 | 7.01                  | 6.20                  | 27.40                    | 7.99                | 10.87               | 7.48                 | 6.52                 | 7.38                           | 7.93                                |
| 37                                                            | 6.59                    | 5.70                  | 6.76                       | 8.45                 | 7.15                  | 6.40                  | 28.20                    | 8.10                | 11.05               | 7.53                 | 6.73                 | 7.58                           | 8.07                                |
| 38                                                            | 6.77                    | 5.84                  | 7.00                       | 8.56                 | 7.35                  | 6.62                  | 29.10                    | 8.23                | 11.21               | 7.58                 | 6.86                 | 7.80                           | 8.22                                |
| 39                                                            | 6.98                    | 6.01                  | 7.36                       | 8.65                 | 7.55                  | 6.87                  | 30.00                    | 8.38                | 11.32               | 7.65                 | 6.87                 | 8.03                           | 8.38                                |
| 40                                                            | 7.18                    | 6.23                  | 7.66                       | 8.79                 | 7.71                  | 7.10                  | 30.80                    | 8.54                | 11.38               | 7.73                 | 7.00                 | 8.22                           | 8.54                                |
| 41                                                            | 7.36                    | 6.47                  | 8.00                       | 8.96                 | 7.88                  | 7.21                  | 31.70                    | 8.68                | 11.39               | 7.81                 | 7.15                 | 8.35                           | 8.76                                |
| 42                                                            | 7.57                    | 6.69                  | 8.38                       | 9.18                 | 8.01                  | 7.31                  | 32.60                    | 8.80                | 11.38               | 7.88                 | 7.22                 | 8.44                           | 9.05                                |
| 43                                                            | 7.73                    | 6.92                  | 8.79                       | 9.44                 | 8.09                  | 7.39                  | 33.50                    | 8.84                | 11.35               | 7.92                 | 7.27                 | 8.54                           | 9.41                                |
| 44                                                            | 7.87                    | 7.19                  | 9.23                       | 9.71                 | 8.24                  | 7.43                  | 34.40                    | 8.82                | 11.38               | 7.97                 | 7.50                 | 8.74                           | 9.81                                |
| 45                                                            | 8.07                    | 7.34                  | 9.70                       | 10.03                | 8.54                  | 7.64                  | 35.30                    | 8.80                | 11.49               | 8.06                 | 7.68                 | 9.07                           | 10.27                               |
| 46                                                            | 8.25                    | 7.48                  | 10.22                      | 10.39                | 8.90                  | 8.07                  | 36.30                    | 8.87                | 11.71               | 8.20                 | 7.73                 | 9.56                           | 10.74                               |
| 47                                                            | 8.51                    | 7.73                  | 10.78                      | 10.79                | 9.33                  | 8.33                  | 37.20                    | 9.10                | 12.04               | 8.42                 | 8.44                 | 10.18                          | 11.24                               |
| 48                                                            | 8.80                    | 8.01                  | 11.38                      | 11.27                | 9.90                  | 8.55                  | 38.30                    | 9.50                | 12.51               | 8.71                 | 8.40                 | 10.88                          | 11.71                               |
| 49                                                            | 9.15                    | 8.35                  | 11.99                      | 11.83                | 10.54                 | 9.28                  | 39.40                    | 10.03               | 13.10               | 9.07                 | 8.95                 | 11.59                          | 12.24                               |

\* 1000q<sub>x</sub> is copied in each case to the nearest second decimal. When only the first decimal was given a cipher was added.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

## RATE OF MORTALITY PER THOUSAND.

TABLE 76

POPULATION AND DEATH STATISTICS, AND EXHIBITED HERE IN TABULAR FORM SO THAT A COMPARISON AT EACH AGE.

| AGE.                                                            | AUSTRALIA:<br>1901-1910 | DENMARK:<br>1906-1910 | ENGLAND:<br>1901-1910<br>* | FRANCE:<br>1898-1903 | GERMANY:<br>1901-1910 | HOLLAND:<br>1900-1909 | INDIA:<br>1901-1910<br>* | ITALY:<br>1901-1910 | JAPAN:<br>1898-1903 | NORWAY:<br>1901-1910 | SWEDEN:<br>1901-1910 | SWITZER-<br>LAND:<br>1901-1910 | UNITED<br>STATES:<br>1901-1910<br>† |
|-----------------------------------------------------------------|-------------------------|-----------------------|----------------------------|----------------------|-----------------------|-----------------------|--------------------------|---------------------|---------------------|----------------------|----------------------|--------------------------------|-------------------------------------|
| 1                                                               | 2                       | 3                     | 4                          | 5                    | 6                     | 7                     | 8                        | 9                   | 10                  | 11                   | 12                   | 13                             | 14                                  |
| RATE OF MORTALITY PER THOUSAND, 1000 <sub>q<sub>x</sub></sub> . |                         |                       |                            |                      |                       |                       |                          |                     |                     |                      |                      |                                |                                     |
|                                                                 |                         |                       |                            |                      |                       |                       |                          |                     |                     |                      |                      |                                | FEMALES.                            |
| 50                                                              | 9.56                    | 8.97                  | 12.67                      | 12.44                | 11.26                 | 10.09                 | 40.60                    | 10.66               | 13.80               | 9.46                 | 9.11                 | 12.34                          | 12.78                               |
| 51                                                              | 9.99                    | 9.63                  | 13.44                      | 13.10                | 12.18                 | 10.71                 | 41.80                    | 11.37               | 14.59               | 9.88                 | 9.56                 | 13.13                          | 13.45                               |
| 52                                                              | 10.54                   | 10.23                 | 14.36                      | 13.80                | 13.17                 | 11.29                 | 43.10                    | 12.13               | 15.44               | 10.32                | 9.83                 | 14.05                          | 14.34                               |
| 53                                                              | 11.17                   | 10.88                 | 15.43                      | 14.56                | 14.08                 | 11.97                 | 44.40                    | 12.87               | 16.37               | 10.83                | 10.54                | 15.06                          | 15.44                               |
| 54                                                              | 11.92                   | 11.59                 | 16.65                      | 15.37                | 15.00                 | 12.59                 | 45.80                    | 13.60               | 17.39               | 11.36                | 11.46                | 16.23                          | 16.67                               |
| 55                                                              | 12.77                   | 11.37                 | 17.98                      | 16.32                | 16.19                 | 13.37                 | 47.40                    | 14.44               | 18.52               | 11.94                | 11.96                | 17.53                          | 18.08                               |
| 56                                                              | 13.70                   | 12.18                 | 19.39                      | 17.44                | 17.64                 | 14.61                 | 49.10                    | 15.62               | 19.77               | 12.61                | 12.59                | 19.08                          | 19.58                               |
| 57                                                              | 14.76                   | 13.45                 | 20.84                      | 18.80                | 19.21                 | 15.84                 | 50.90                    | 16.95               | 21.18               | 13.33                | 13.37                | 20.82                          | 21.03                               |
| 58                                                              | 16.06                   | 14.51                 | 22.30                      | 20.48                | 20.88                 | 17.09                 | 53.00                    | 18.77               | 22.77               | 14.12                | 14.46                | 22.76                          | 22.42                               |
| 59                                                              | 17.53                   | 15.89                 | 23.80                      | 22.36                | 22.68                 | 18.68                 | 55.20                    | 20.88               | 24.53               | 15.05                | 15.21                | 24.80                          | 23.91                               |
| 60                                                              | 19.20                   | 17.44                 | 25.39                      | 24.36                | 24.73                 | 20.75                 | 57.80                    | 23.26               | 26.50               | 16.11                | 16.60                | 27.01                          | 25.53                               |
| 61                                                              | 21.01                   | 19.13                 | 27.11                      | 26.46                | 27.24                 | 22.83                 | 60.60                    | 25.87               | 28.69               | 17.35                | 17.84                | 29.52                          | 27.33                               |
| 62                                                              | 22.97                   | 21.02                 | 29.03                      | 28.78                | 30.11                 | 24.86                 | 63.50                    | 28.67               | 31.10               | 18.78                | 19.06                | 32.45                          | 29.49                               |
| 63                                                              | 25.12                   | 23.11                 | 31.02                      | 31.18                | 33.11                 | 27.12                 | 66.80                    | 31.50               | 33.76               | 20.39                | 20.98                | 35.79                          | 31.97                               |
| 64                                                              | 27.45                   | 25.52                 | 33.06                      | 33.79                | 36.25                 | 29.70                 | 70.40                    | 34.37               | 36.68               | 22.17                | 22.85                | 39.44                          | 34.57                               |
| 65                                                              | 29.98                   | 28.20                 | 35.34                      | 36.64                | 39.60                 | 32.36                 | 74.40                    | 37.54               | 39.67               | 24.12                | 24.92                | 43.27                          | 37.33                               |
| 66                                                              | 32.72                   | 30.99                 | 38.04                      | 39.79                | 43.24                 | 35.46                 | 78.80                    | 41.28               | 43.37               | 26.24                | 27.14                | 47.28                          | 40.28                               |
| 67                                                              | 35.77                   | 34.32                 | 41.41                      | 43.61                | 47.40                 | 39.13                 | 83.60                    | 45.82               | 47.17               | 28.57                | 29.05                | 51.54                          | 43.43                               |
| 68                                                              | 39.16                   | 37.99                 | 45.66                      | 48.01                | 52.00                 | 43.27                 | 88.90                    | 51.23               | 51.30               | 31.12                | 32.97                | 56.27                          | 46.84                               |
| 69                                                              | 43.14                   | 41.68                 | 50.75                      | 52.07                | 56.76                 | 47.59                 | 94.80                    | 57.34               | 55.81               | 33.94                | 36.17                | 61.48                          | 50.59                               |
| 70                                                              | 47.77                   | 46.18                 | 56.43                      | 58.50                | 62.06                 | 51.74                 | 101.20                   | 64.07               | 60.72               | 37.13                | 40.32                | 67.14                          | 54.72                               |
| 71                                                              | 53.01                   | 50.86                 | 62.42                      | 64.63                | 68.39                 | 56.58                 | 108.20                   | 71.32               | 66.05               | 40.74                | 43.49                | 73.20                          | 59.23                               |
| 72                                                              | 58.87                   | 54.83                 | 68.39                      | 71.32                | 75.31                 | 62.62                 | 116.30                   | 79.02               | 71.83               | 44.88                | 49.84                | 79.80                          | 64.09                               |
| 73                                                              | 65.02                   | 59.48                 | 74.26                      | 78.44                | 82.13                 | 69.26                 | 125.10                   | 86.89               | 78.11               | 49.59                | 53.85                | 87.18                          | 69.29                               |
| 74                                                              | 71.35                   | 65.51                 | 80.23                      | 86.15                | 89.69                 | 75.21                 | 135.00                   | 95.00               | 84.94               | 54.91                | 59.00                | 95.31                          | 74.95                               |
| 75                                                              | 77.79                   | 72.06                 | 86.43                      | 94.54                | 98.31                 | 81.62                 | 146.00                   | 103.74              | 92.00               | 60.72                | 67.02                | 104.03                         | 81.13                               |
| 76                                                              | 84.31                   | 79.76                 | 93.00                      | 103.60               | 106.97                | 89.86                 | 158.30                   | 113.52              | 99.65               | 66.99                | 73.76                | 112.97                         | 87.71                               |
| 77                                                              | 91.01                   | 89.67                 | 100.09                     | 113.40               | 116.27                | 98.67                 | 172.20                   | 124.72              | 107.90              | 73.69                | 83.32                | 122.30                         | 94.77                               |
| 78                                                              | 98.01                   | 98.59                 | 107.68                     | 123.90               | 126.60                | 107.60                | 188.90                   | 137.87              | 116.90              | 80.71                | 87.93                | 132.16                         | 102.56                              |
| 79                                                              | 105.42                  | 107.32                | 115.70                     | 135.10               | 136.45                | 117.70                | 205.20                   | 152.69              | 126.60              | 88.22                | 99.58                | 143.02                         | 111.52                              |
| 80                                                              | 113.33                  | 119.06                | 124.29                     | 146.70               | 146.50                | 127.80                | 224.90                   | 168.42              | 137.20              | 96.29                | 109.48               | 154.71                         | 122.14                              |
| 81                                                              | 121.85                  | 129.80                | 133.62                     | 157.60               | 158.97                | 137.40                | 246.90                   | 184.29              | 148.60              | 105.20               | 120.77               | 167.26                         | 133.54                              |
| 82                                                              | 131.00                  | 139.87                | 143.80                     | 169.20               | 173.18                | 148.30                | 271.60                   | 199.52              | 160.90              | 115.13               | 131.15               | 180.16                         | 144.41                              |
| 83                                                              | 140.91                  | 152.26                | 155.37                     | 181.40               | 187.43                | 161.70                | 299.00                   | 214.76              | 174.30              | 126.15               | 144.08               | 193.35                         | 154.51                              |
| 84                                                              | 151.97                  | 162.71                | 168.19                     | 194.40               | 202.01                | 175.80                | 329.00                   | 230.53              | 188.80              | 137.95               | 161.70               | 208.62                         | 165.91                              |
| 85                                                              | 164.59                  | 170.35                | 182.03                     | 206.70               | 217.39                | 188.30                | 362.80                   | 247.27              | 204.50              | 150.31               | 173.55               | 220.16                         | 178.61                              |
| 86                                                              | 178.70                  | 182.99                | 196.51                     | 213.40               | 233.55                | 201.00                | 399.30                   | 265.37              | 221.50              | 162.99               | 189.31               | 234.50                         | 191.60                              |
| 87                                                              | 193.81                  | 200.53                | 211.15                     | 220.20               | 249.89                | 216.00                | 440.00                   | 285.16              | 239.99              | 175.63               | 205.52               | 250.30                         | 204.46                              |
| 88                                                              | 209.38                  | 224.08                | 226.13                     | 227.00               | 265.24                | 231.00                | 485.00                   | 306.89              | 259.60              | 188.64               | 220.95               | 268.83                         | 217.43                              |
| 89                                                              | 225.38                  | 246.09                | 241.80                     | 233.00               | 280.15                | 242.00                | 535.00                   | 330.77              | 281.40              | 202.73               | 238.04               | 288.98                         | 231.75                              |
| 90                                                              | 242.21                  | 257.06                | 257.81                     | 240.60               | 295.66                | 270.00                | 590.70                   | 356.92              | 304.50              | 218.48               | 252.73               | 309.20                         | 246.87                              |
| 91                                                              | 260.17                  | .....                 | 273.76                     | 247.40               | 311.24                | 300.00                | 653.00                   | 385.41              | 330.10              | 235.96               | 269.20               | 325.04                         | 262.65                              |
| 92                                                              | 279.16                  | .....                 | 289.18                     | 254.20               | 326.36                | 350.00                | 723.90                   | 416.25              | 357.60              | 255.32               | 292.83               | 337.43                         | 278.76                              |
| 93                                                              | 299.06                  | .....                 | 303.83                     | 261.10               | 341.07                | 400.00                | 803.40                   | 449.38              | 387.30              | 275.32               | 312.27               | 348.51                         | 294.77                              |
| 94                                                              | 319.75                  | .....                 | 317.70                     | 268.40               | 355.18                | 470.00                | .....                    | 484.69              | 419.50              | 294.50               | 326.80               | 374.66                         | 310.26                              |
| 95                                                              | 341.45                  | .....                 | 330.06                     | 275.70               | 368.57                | 560.00                | .....                    | 521.98              | 454.40              | 311.60               | 360.75               | 402.96                         | 324.90                              |
| 96                                                              | 364.71                  | .....                 | 343.96                     | 283.30               | 381.13                | 660.00                | .....                    | 561.01              | 492.10              | 328.41               | 386.04               | 432.44                         | 338.69                              |
| 97                                                              | 389.62                  | .....                 | 357.21                     | 292.00               | 392.74                | 780.00                | .....                    | 601.47              | 533.00              | 344.32               | 392.59               | 468.80                         | 351.88                              |
| 98                                                              | 415.84                  | .....                 | 371.35                     | 302.00               | 403.28                | 900.00                | .....                    | 642.98              | 577.30              | 358.00               | 394.38               | 506.72                         | 365.07                              |
| 99                                                              | 450.50                  | .....                 | 387.15                     | 314.00               | 412.66                | .....                 | .....                    | 685.10              | 625.30              | 374.00               | 417.30               | 546.98                         | 378.85                              |
| 100                                                             | 500.73                  | .....                 | 405.44                     | 329.00               | 420.77                | 1,000.00              | .....                    | .....               | 677.30              | 396.00               | 440.00               | 590.07                         | 393.81                              |

\* 1000<sub>q<sub>x</sub></sub> is copied in each case to the nearest second decimal. When only the first decimal was given a cipher was added.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

## UNITED STATES LIFE TABLES.

TABLE 77

FOREIGN COUNTRIES. MALES. NUMBER OF

TAKEN FROM THE PUBLISHED LIFE TABLES OF VARIOUS COUNTRIES, BASED ON THEIR OFFICIAL  
MAY BE MADE

| AGE.                                | AUSTRALIA:<br>1901-1910 | DENMARK:<br>1906-1910 | ENGLAND:<br>1901-1910 | FRANCE:<br>1898-1903 | GERMANY:<br>1901-1910 | HOLLAND:<br>1900-1909 | INDIA:<br>1901-1910 | ITALY:<br>1901-1910 | JAPAN:<br>1898-1903 | NORWAY:<br>1901-1910 | SWEDEN:<br>1901-1910 | SWITZER-<br>LAND:<br>1901-1910 | UNITED<br>STATES:<br>1901-1910 |
|-------------------------------------|-------------------------|-----------------------|-----------------------|----------------------|-----------------------|-----------------------|---------------------|---------------------|---------------------|----------------------|----------------------|--------------------------------|--------------------------------|
| 1                                   | 2                       | 3                     | 4                     | 5                    | 6                     | 7                     | 8                   | 9                   | 10                  | 11                   | 12                   | 13                             | 14                             |
| MALES. NUMBER OF SURVIVORS, $l_x$ . |                         |                       |                       |                      |                       |                       |                     |                     |                     |                      |                      |                                |                                |
| 0                                   | 100,000                 | 100,000               | 100,000               | 100,000              | 100,000               | 100,000               | 100,000             | 100,000             | 100,000             | 100,000              | 100,000              | 100,000                        | 100,000                        |
| 1                                   | 90,490                  | 87,933                | 85,566                | 83,674               | 79,766                | 85,954                | 71,002              | 83,229              | 84,314              | 91,855               | 90,745               | 86,160                         | 87,262                         |
| 2                                   | 88,879                  | 86,472                | 82,110                | 80,839               | 76,585                | 82,898                | 64,629              | 77,370              | 81,206              | 90,169               | 88,679               | 84,260                         | 84,028                         |
| 3                                   | 88,280                  | 85,884                | 80,800                | 79,310               | 75,442                | 81,518                | 60,258              | 74,987              | 79,102              | 89,392               | 87,712               | 83,442                         | 83,464                         |
| 4                                   | 87,892                  | 85,500                | 79,990                | 78,365               | 74,727                | 80,771                | 57,375              | 73,680              | 77,757              | 88,824               | 87,022               | 82,898                         | 82,730                         |
| 5                                   | 87,585                  | 85,229                | 79,398                | 77,692               | 74,211                | 80,243                | 56,308              | 72,816              | 76,887              | 88,366               | 86,491               | 82,469                         | 82,195                         |
| 6                                   | 87,339                  | 84,986                | 78,967                | 77,199               | 73,820                | 79,845                | 53,785              | 72,257              | 76,282              | 87,979               | 86,057               | 82,129                         | 81,764                         |
| 7                                   | 87,134                  | 84,772                | 78,653                | 76,808               | 73,506                | 79,529                | 52,617              | 71,897              | 75,836              | 87,639               | 85,682               | 81,861                         | 81,403                         |
| 8                                   | 86,952                  | 84,598                | 78,419                | 76,478               | 73,244                | 79,267                | 51,684              | 71,658              | 75,476              | 87,330               | 85,339               | 81,620                         | 81,097                         |
| 9                                   | 86,782                  | 84,402                | 78,237                | 76,195               | 73,023                | 79,045                | 50,898              | 71,481              | 75,165              | 87,041               | 85,037               | 81,402                         | 80,835                         |
| 10                                  | 86,622                  | 84,240                | 78,083                | 75,944               | 72,827                | 78,850                | 50,212              | 71,325              | 74,891              | 86,769               | 84,762               | 81,201                         | 80,605                         |
| 11                                  | 86,467                  | 84,088                | 77,941                | 75,714               | 72,650                | 78,672                | 49,566              | 71,164              | 74,643              | 86,510               | 84,489               | 81,019                         | 80,394                         |
| 12                                  | 86,312                  | 83,939                | 77,798                | 75,497               | 72,487                | 78,508                | 48,993              | 70,982              | 74,407              | 86,262               | 84,239               | 80,849                         | 80,192                         |
| 13                                  | 86,153                  | 83,790                | 77,647                | 75,283               | 72,334                | 78,350                | 48,408              | 70,771              | 74,171              | 86,017               | 84,003               | 80,685                         | 79,989                         |
| 14                                  | 85,982                  | 83,635                | 77,480                | 75,062               | 72,179                | 78,188                | 47,818              | 70,531              | 73,908              | 85,762               | 83,771               | 80,519                         | 79,775                         |
| 15                                  | 85,789                  | 83,461                | 77,297                | 74,818               | 72,007                | 78,010                | 47,213              | 70,264              | 73,602              | 85,475               | 83,533               | 80,335                         | 79,544                         |
| 16                                  | 85,570                  | 83,254                | 77,095                | 74,537               | 71,808                | 77,807                | 46,587              | 69,975              | 73,252              | 85,126               | 83,264               | 80,119                         | 79,291                         |
| 17                                  | 85,330                  | 83,021                | 76,875                | 74,211               | 71,573                | 77,573                | 45,936              | 69,665              | 72,848              | 84,689               | 82,941               | 79,856                         | 79,009                         |
| 18                                  | 85,071                  | 82,770                | 76,638                | 73,837               | 71,300                | 77,300                | 45,260              | 69,333              | 72,387              | 84,153               | 82,566               | 79,543                         | 78,694                         |
| 19                                  | 84,789                  | 82,498                | 76,384                | 73,416               | 70,989                | 76,978                | 44,557              | 68,972              | 71,871              | 83,524               | 82,126               | 79,186                         | 78,344                         |
| 20                                  | 84,493                  | 82,205                | 76,113                | 72,948               | 70,647                | 76,612                | 43,833              | 68,579              | 71,310              | 82,817               | 81,638               | 78,797                         | 77,957                         |
| 21                                  | 84,180                  | 81,887                | 75,825                | 72,438               | 70,291                | 76,224                | 43,091              | 68,154              | 70,718              | 82,066               | 81,115               | 78,390                         | 77,532                         |
| 22                                  | 83,851                  | 81,556                | 75,521                | 71,894               | 69,935                | 75,832                | 42,333              | 67,704              | 70,110              | 81,301               | 80,585               | 77,975                         | 77,078                         |
| 23                                  | 83,512                  | 81,213                | 75,205                | 71,333               | 69,592                | 75,444                | 41,560              | 67,238              | 69,499              | 80,538               | 80,064               | 77,558                         | 76,614                         |
| 24                                  | 83,163                  | 80,861                | 74,879                | 70,775               | 69,232                | 75,061                | 40,773              | 66,768              | 68,894              | 79,791               | 79,545               | 77,140                         | 76,148                         |
| 25                                  | 82,802                  | 80,523                | 74,546                | 70,230               | 68,881                | 74,684                | 39,973              | 66,303              | 68,304              | 79,068               | 79,037               | 76,718                         | 75,679                         |
| 26                                  | 82,431                  | 80,198                | 74,208                | 69,702               | 68,528                | 74,317                | 39,156              | 65,849              | 67,732              | 78,374               | 78,541               | 76,291                         | 75,208                         |
| 27                                  | 82,048                  | 79,869                | 73,862                | 69,190               | 68,173                | 73,960                | 38,331              | 65,406              | 67,178              | 77,709               | 78,048               | 75,856                         | 74,732                         |
| 28                                  | 81,656                  | 79,637                | 73,505                | 68,683               | 67,817                | 73,608                | 37,502              | 64,970              | 66,641              | 77,071               | 77,568               | 75,413                         | 74,245                         |
| 29                                  | 81,253                  | 79,202                | 73,132                | 68,172               | 67,458                | 73,258                | 36,669              | 64,537              | 66,115              | 76,458               | 77,092               | 74,962                         | 73,741                         |
| 30                                  | 80,844                  | 78,862                | 72,741                | 67,653               | 67,092                | 72,907                | 35,831              | 64,108              | 65,596              | 75,866               | 76,619               | 74,506                         | 73,222                         |
| 31                                  | 80,425                  | 78,509                | 72,329                | 67,121               | 66,719                | 72,561                | 34,988              | 63,680              | 65,080              | 75,292               | 76,156               | 74,044                         | 72,687                         |
| 32                                  | 79,991                  | 78,140                | 71,896                | 66,575               | 66,338                | 72,223                | 34,135              | 63,251              | 64,563              | 74,733               | 75,694               | 73,574                         | 72,133                         |
| 33                                  | 79,544                  | 77,772                | 71,442                | 66,012               | 65,946                | 71,882                | 33,274              | 62,825              | 64,041              | 74,184               | 75,237               | 73,088                         | 71,558                         |
| 34                                  | 79,082                  | 77,386                | 70,967                | 65,434               | 65,536                | 71,526                | 32,406              | 62,395              | 63,513              | 73,642               | 74,785               | 72,584                         | 70,961                         |
| 35                                  | 78,607                  | 76,988                | 70,472                | 64,839               | 65,104                | 71,155                | 31,533              | 61,962              | 62,976              | 73,104               | 74,331               | 72,060                         | 70,342                         |
| 36                                  | 78,109                  | 76,581                | 69,956                | 64,228               | 64,650                | 70,773                | 30,656              | 61,525              | 62,429              | 72,567               | 73,858               | 71,517                         | 69,699                         |
| 37                                  | 77,591                  | 76,162                | 69,418                | 63,601               | 64,175                | 70,377                | 29,776              | 61,080              | 61,870              | 72,030               | 73,386               | 70,953                         | 69,038                         |
| 38                                  | 77,050                  | 75,722                | 68,858                | 62,959               | 63,676                | 69,966                | 28,896              | 60,625              | 61,296              | 71,492               | 72,906               | 70,365                         | 68,365                         |
| 39                                  | 76,482                  | 75,260                | 68,275                | 62,306               | 63,149                | 69,539                | 28,015              | 60,156              | 60,707              | 70,952               | 72,414               | 69,747                         | 67,685                         |
| 40                                  | 75,887                  | 74,773                | 67,668                | 61,641               | 62,598                | 69,090                | 27,136              | 59,669              | 60,101              | 70,408               | 71,897               | 69,100                         | 66,996                         |
| 41                                  | 75,268                  | 74,257                | 67,038                | 60,960               | 62,021                | 68,621                | 26,260              | 59,163              | 59,476              | 69,860               | 71,352               | 68,421                         | 66,299                         |
| 42                                  | 74,621                  | 73,710                | 66,382                | 60,261               | 61,413                | 68,134                | 25,387              | 58,638              | 58,829              | 69,305               | 70,797               | 67,711                         | 65,590                         |
| 43                                  | 73,942                  | 73,132                | 65,697                | 59,541               | 60,773                | 67,628                | 24,519              | 58,094              | 58,160              | 68,742               | 70,228               | 66,966                         | 64,858                         |
| 44                                  | 73,228                  | 72,524                | 64,980                | 58,799               | 60,105                | 67,098                | 23,657              | 57,535              | 57,466              | 68,167               | 69,645               | 66,184                         | 64,097                         |
| 45                                  | 72,479                  | 71,879                | 64,230                | 58,033               | 59,405                | 66,532                | 22,803              | 56,962              | 56,743              | 67,579               | 69,050               | 65,364                         | 63,304                         |
| 46                                  | 71,694                  | 71,205                | 63,444                | 57,242               | 58,666                | 65,935                | 21,955              | 56,373              | 55,989              | 66,976               | 68,412               | 64,509                         | 62,475                         |
| 47                                  | 70,875                  | 70,511                | 62,621                | 56,424               | 57,892                | 65,315                | 21,116              | 55,771              | 55,203              | 66,350               | 67,767               | 63,620                         | 61,615                         |
| 48                                  | 70,021                  | 69,795                | 61,757                | 55,580               | 57,084                | 64,666                | 20,287              | 55,144              | 54,382              | 65,716               | 67,089               | 62,693                         | 60,739                         |
| 49                                  | 69,139                  | 69,054                | 60,851                | 54,711               | 56,233                | 63,980                | 19,467              | 54,488              | 53,524              | 65,054               | 66,427               | 61,719                         | 59,856                         |

\* These derived values were all copied to the nearest integer when the radix is 100,000.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

## SURVIVORS OUT OF 100,000 BORN ALIVE.

TABLE 77

POPULATION AND DEATH STATISTICS, AND EXHIBITED HERE IN TABULAR FORM SO THAT A COMPARISON AT EACH AGE.

| AGE.                         | AUSTRALIA:<br>1901-1910<br>* | DENMARK:<br>1906-1910. | ENGLAND:<br>1901-1910<br>* | FRANCE:<br>1898-1903 | GERMANY:<br>1901-1910<br>* | HOLLAND:<br>1900-1909 | INDIA:<br>1901-1910 | ITALY:<br>1901-1910 | JAPAN:<br>1898-1903 | NORWAY:<br>1901-1910 | SWEDEN:<br>1901-1910<br>* | SWITZER-<br>LAND:<br>1901-1910 | UNITED<br>STATES:<br>1901-1910<br>† |
|------------------------------|------------------------------|------------------------|----------------------------|----------------------|----------------------------|-----------------------|---------------------|---------------------|---------------------|----------------------|---------------------------|--------------------------------|-------------------------------------|
| 1                            | 2                            | 3                      | 4                          | 5                    | 6                          | 7                     | 8                   | 9                   | 10                  | 11                   | 12                        | 13                             | 14                                  |
| NUMBER OF SURVIVORS, $L_x$ . |                              |                        |                            |                      |                            |                       |                     |                     |                     |                      |                           |                                |                                     |
| MALES.                       |                              |                        |                            |                      |                            |                       |                     |                     |                     |                      |                           |                                |                                     |
| 50                           | 68,221                       | 68,281                 | 59,003                     | 53,818               | 55,310                     | 63,265                | 18,658              | 53,799              | 52,629              | 64,366               | 65,702                    | 60,692                         | 53,963                              |
| 51                           | 67,270                       | 67,473                 | 58,910                     | 52,903               | 54,403                     | 62,520                | 17,860              | 53,075              | 51,095              | 63,651               | 64,963                    | 59,607                         | 58,062                              |
| 52                           | 66,286                       | 66,619                 | 57,870                     | 51,065               | 53,419                     | 61,741                | 17,074              | 52,315              | 50,720              | 62,908               | 64,175                    | 58,464                         | 57,142                              |
| 53                           | 65,266                       | 65,715                 | 56,779                     | 51,005               | 52,388                     | 60,920                | 16,299              | 51,519              | 49,700              | 62,135               | 63,357                    | 57,206                         | 56,180                              |
| 54                           | 64,208                       | 64,755                 | 55,635                     | 50,020               | 51,312                     | 60,044                | 15,537              | 50,692              | 48,636              | 61,335               | 62,504                    | 56,011                         | 55,159                              |
| 55                           | 63,107                       | 63,730                 | 54,435                     | 49,004               | 50,185                     | 59,107                | 14,787              | 49,838              | 47,523              | 60,507               | 61,601                    | 54,703                         | 54,075                              |
| 56                           | 61,961                       | 62,642                 | 53,179                     | 47,949               | 49,003                     | 58,110                | 14,049              | 48,954              | 46,360              | 59,650               | 60,661                    | 53,344                         | 52,919                              |
| 57                           | 60,703                       | 61,487                 | 51,861                     | 46,847               | 47,772                     | 57,060                | 13,325              | 48,032              | 45,144              | 58,762               | 59,709                    | 51,931                         | 51,692                              |
| 58                           | 59,505                       | 60,271                 | 50,490                     | 45,689               | 46,500                     | 55,951                | 12,613              | 47,058              | 43,573              | 57,839               | 58,716                    | 50,456                         | 50,409                              |
| 59                           | 58,178                       | 58,980                 | 49,057                     | 44,473               | 45,150                     | 54,782                | 11,914              | 46,018              | 42,545              | 56,875               | 57,665                    | 48,911                         | 49,079                              |
| 60                           | 56,782                       | 57,639                 | 47,564                     | 43,199               | 43,807                     | 53,551                | 11,229              | 44,902              | 41,160              | 55,892               | 56,548                    | 47,298                         | 47,701                              |
| 61                           | 55,315                       | 56,262                 | 46,012                     | 41,867               | 42,379                     | 52,250                | 10,557              | 43,707              | 39,717              | 54,793               | 55,380                    | 45,622                         | 46,275                              |
| 62                           | 53,772                       | 54,822                 | 44,404                     | 40,479               | 40,892                     | 50,805                | 9,898               | 42,432              | 38,216              | 53,661               | 54,112                    | 43,894                         | 44,797                              |
| 63                           | 52,153                       | 53,318                 | 42,741                     | 39,036               | 39,343                     | 49,457                | 9,252               | 41,081              | 36,659              | 52,459               | 52,860                    | 42,115                         | 43,260                              |
| 64                           | 50,455                       | 51,746                 | 41,030                     | 37,542               | 37,737                     | 47,914                | 8,620               | 39,666              | 35,047              | 51,192               | 51,471                    | 40,286                         | 41,658                              |
| 65                           | 48,070                       | 50,114                 | 39,278                     | 35,998               | 36,079                     | 46,287                | 8,002               | 38,198              | 33,384              | 49,827               | 50,040                    | 38,402                         | 39,996                              |
| 66                           | 46,792                       | 48,408                 | 37,468                     | 34,403               | 34,381                     | 44,565                | 7,398               | 36,677              | 31,674              | 48,392               | 48,537                    | 36,466                         | 38,279                              |
| 67                           | 44,813                       | 46,615                 | 35,659                     | 32,754               | 32,637                     | 42,750                | 6,808               | 35,093              | 29,925              | 46,879               | 46,973                    | 34,480                         | 36,517                              |
| 68                           | 42,732                       | 44,730                 | 33,786                     | 31,040               | 30,838                     | 40,867                | 6,234               | 33,430              | 28,144              | 45,292               | 45,257                    | 32,452                         | 34,720                              |
| 69                           | 40,550                       | 42,756                 | 31,865                     | 29,287               | 28,998                     | 38,909                | 5,676               | 31,677              | 26,339              | 43,635               | 43,506                    | 30,390                         | 32,896                              |
| 70                           | 38,275                       | 40,684                 | 29,898                     | 27,465               | 27,136                     | 36,866                | 5,134               | 29,835              | 24,519              | 41,911               | 41,680                    | 28,308                         | 31,060                              |
| 71                           | 35,916                       | 38,502                 | 27,693                     | 25,580               | 25,254                     | 34,749                | 4,612               | 27,911              | 22,694              | 40,119               | 39,746                    | 26,213                         | 29,190                              |
| 72                           | 33,489                       | 36,261                 | 25,860                     | 23,640               | 23,345                     | 32,591                | 4,109               | 25,919              | 20,873              | 38,255               | 37,738                    | 24,127                         | 27,313                              |
| 73                           | 31,005                       | 34,000                 | 23,817                     | 21,722               | 21,416                     | 30,376                | 3,627               | 23,877              | 19,070              | 36,315               | 35,644                    | 22,059                         | 25,411                              |
| 74                           | 28,487                       | 31,705                 | 21,777                     | 19,774               | 19,490                     | 28,099                | 3,169               | 21,815              | 17,297              | 34,297               | 33,455                    | 20,019                         | 23,486                              |
| 75                           | 25,962                       | 29,370                 | 19,754                     | 17,815               | 17,586                     | 25,800                | 2,736               | 19,762              | 15,570              | 32,206               | 31,227                    | 18,014                         | 21,547                              |
| 76                           | 23,467                       | 26,997                 | 17,766                     | 15,879               | 15,715                     | 23,498                | 2,331               | 17,734              | 13,896              | 30,051               | 28,888                    | 16,052                         | 19,605                              |
| 77                           | 21,031                       | 24,588                 | 15,836                     | 13,984               | 13,902                     | 21,206                | 1,956               | 15,742              | 12,287              | 27,846               | 26,550                    | 14,144                         | 17,683                              |
| 78                           | 18,687                       | 22,139                 | 13,985                     | 12,152               | 12,169                     | 18,956                | 1,614               | 13,795              | 10,755              | 25,605               | 24,170                    | 12,305                         | 15,813                              |
| 79                           | 16,447                       | 19,701                 | 12,237                     | 10,403               | 10,525                     | 16,786                | 1,305               | 11,900              | 9,311               | 23,345               | 21,728                    | 10,558                         | 14,916                              |
| 80                           | 14,330                       | 17,333                 | 10,608                     | 8,774                | 8,987                      | 14,681                | 1,032               | 10,079              | 7,964               | 21,083               | 19,350                    | 8,928                          | 12,295                              |
| 81                           | 12,354                       | 15,045                 | 9,105                      | 7,302                | 7,568                      | 12,670                | 796                 | 8,368               | 6,723               | 18,841               | 17,013                    | 7,438                          | 10,651                              |
| 82                           | 10,528                       | 12,874                 | 7,731                      | 6,005                | 6,275                      | 10,794                | 596                 | 6,806               | 5,595               | 16,644               | 14,784                    | 6,104                          | 9,103                               |
| 83                           | 8,857                        | 10,859                 | 6,482                      | 4,871                | 5,116                      | 9,069                 | 432                 | 5,426               | 4,584               | 14,521               | 12,618                    | 4,932                          | 7,674                               |
| 84                           | 7,343                        | 9,013                  | 5,354                      | 3,886                | 4,094                      | 7,496                 | 392                 | 4,240               | 3,692               | 12,501               | 10,610                    | 3,923                          | 6,375                               |
| 85                           | 5,995                        | 7,373                  | 4,349                      | 3,037                | 3,212                      | 6,085                 | 202                 | 3,245               | 2,918               | 10,610               | 8,732                     | 3,068                          | 5,214                               |
| 86                           | 4,814                        | 5,960                  | 3,465                      | 2,337                | 2,468                      | 4,844                 | 128                 | 2,429               | 2,259               | 8,869                | 7,053                     | 2,350                          | 4,197                               |
| 87                           | 3,798                        | 4,755                  | 2,705                      | 1,778                | 1,856                      | 3,793                 | 77                  | 1,774               | 1,710               | 7,295                | 5,567                     | 1,770                          | 3,324                               |
| 88                           | 2,941                        | 3,688                  | 2,066                      | 1,337                | 1,364                      | 2,924                 | 44                  | 1,261               | 1,262               | 5,900                | 4,313                     | 1,297                          | 2,589                               |
| 89                           | 2,230                        | 2,739                  | 1,540                      | 993                  | 978                        | 2,211                 | 23                  | 870                 | 906                 | 4,688                | 3,257                     | 926                            | 1,983                               |
| 90                           | 1,652                        | 1,908                  | 1,117                      | 728                  | 683                        | 1,636                 | 11                  | 580                 | 631                 | 3,656                | 2,380                     | 645                            | 1,492                               |
| 91                           | 1,194                        | .....                  | 787                        | 526                  | 484                        | 1,162                 | 5                   | 372                 | 425                 | 2,794                | 1,697                     | 441                            | 1,102                               |
| 92                           | 840                          | .....                  | 538                        | 375                  | 307                        | 755                   | 2                   | 228                 | 275                 | 2,089                | 1,181                     | 295                            | 798                                 |
| 93                           | 574                          | .....                  | 359                        | 263                  | 197                        | 445                   | 1                   | 133                 | 171                 | 1,524                | 796                       | 194                            | 566                                 |
| 94                           | 380                          | .....                  | 234                        | 181                  | 123                        | 236                   | .....               | 73                  | 101                 | 1,082                | 526                       | 123                            | 392                                 |
| 95                           | 244                          | .....                  | 149                        | 122                  | 74                         | 111                   | .....               | 38                  | 57                  | 747                  | 332                       | 75                             | 266                                 |
| 96                           | 151                          | .....                  | 94                         | 80                   | 44                         | 44                    | .....               | 18                  | 30                  | 601                  | 200                       | 43                             | 175                                 |
| 97                           | 90                           | .....                  | 59                         | 51                   | 25                         | 13                    | .....               | 8                   | 15                  | 326                  | 116                       | 23                             | 113                                 |
| 98                           | 52                           | .....                  | 36                         | 32                   | 14                         | 3                     | .....               | 3                   | 7                   | 205                  | 67                        | 11                             | 70                                  |
| 99                           | 28                           | .....                  | 22                         | 19                   | 7                          | .....                 | .....               | 1                   | 3                   | 124                  | 39                        | 5                              | 43                                  |
| 100                          | 15                           | .....                  | 13                         | 11                   | 4                          | .....                 | .....               | .....               | 1                   | 72                   | 20                        | 2                              | 25                                  |

\* These derived values were all copied to the nearest integer when the radix is 100,000.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.



## UNITED STATES LIFE TABLES.

TABLE 78

## FOREIGN COUNTRIES. FEMALES. NUMBER OF

TAKEN FROM THE PUBLISHED LIFE TABLES OF VARIOUS COUNTRIES, BASED ON THEIR OFFICIAL  
MAY BE MADE

| AGE.                                  | AUSTRALIA:<br>1901-1910 | DENMARK:<br>1906-1910 | ENGLAND:<br>1901-1910 | FRANCE:<br>1898-1903 | GERMANY:<br>1901-1910 | HOLLAND:<br>1900-1909 | INDIA:<br>1901-1910 | ITALY:<br>1901-1910 | JAPAN:<br>1898-1903 | NORWAY:<br>1901-1910 | SWEDEN:<br>1901-1910 | SWITZER-<br>LAND:<br>1901-1910 | UNITED<br>STATES:<br>1901-1910 |
|---------------------------------------|-------------------------|-----------------------|-----------------------|----------------------|-----------------------|-----------------------|---------------------|---------------------|---------------------|----------------------|----------------------|--------------------------------|--------------------------------|
| 1                                     | 2                       | 3                     | 4                     | 5                    | 6                     | 7                     | 8                   | 9                   | 10                  | 11                   | 12                   | 13                             | 14                             |
| FEMALES. NUMBER OF SURVIVORS, $l_x$ . |                         |                       |                       |                      |                       |                       |                     |                     |                     |                      |                      |                                |                                |
| 0                                     | 100,000                 | 100,000               | 100,000               | 100,000              | 100,000               | 100,000               | 100,000             | 100,000             | 100,000             | 100,000              | 100,000              | 100,000                        | 100,000                        |
| 1                                     | 92,047                  | 90,229                | 88,257                | 86,351               | 82,952                | 88,231                | 71,540              | 81,789              | 85,908              | 93,321               | 92,402               | 88,742                         | 89,419                         |
| 2                                     | 90,515                  | 88,786                | 84,934                | 83,617               | 79,761                | 85,212                | 65,375              | 78,738              | 82,817              | 91,757               | 90,442               | 86,824                         | 86,996                         |
| 3                                     | 89,946                  | 88,228                | 83,638                | 82,150               | 78,594                | 83,573                | 61,318              | 76,230              | 80,662              | 90,928               | 89,509               | 86,004                         | 85,899                         |
| 4                                     | 89,576                  | 87,839                | 82,797                | 81,200               | 77,867                | 83,185                | 58,582              | 74,866              | 79,265              | 90,366               | 88,830               | 85,466                         | 85,188                         |
| 5                                     | 89,265                  | 87,558                | 82,178                | 80,496               | 77,334                | 82,690                | 56,608              | 73,935              | 78,339              | 89,922               | 88,285               | 85,054                         | 84,668                         |
| 6                                     | 89,055                  | 87,333                | 81,723                | 79,974               | 76,924                | 82,307                | 55,123              | 73,307              | 77,701              | 89,537               | 87,820               | 84,709                         | 84,245                         |
| 7                                     | 88,865                  | 87,129                | 81,357                | 79,553               | 76,587                | 81,908                | 53,954              | 72,880              | 77,241              | 89,191               | 87,446               | 84,438                         | 83,895                         |
| 8                                     | 88,695                  | 86,935                | 81,132                | 79,199               | 76,301                | 81,739                | 52,995              | 72,578              | 76,869              | 88,882               | 87,115               | 84,190                         | 83,603                         |
| 9                                     | 88,540                  | 86,748                | 80,920                | 78,892               | 76,058                | 81,515                | 52,178              | 72,314              | 76,545              | 88,590               | 86,796               | 83,965                         | 83,357                         |
| 10                                    | 88,395                  | 86,566                | 80,756                | 78,616               | 75,845                | 81,314                | 51,450              | 72,136              | 76,245              | 88,308               | 86,509               | 83,760                         | 83,143                         |
| 11                                    | 88,255                  | 86,386                | 80,595                | 78,358               | 75,651                | 81,129                | 50,787              | 71,927              | 75,958              | 88,026               | 86,228               | 83,571                         | 82,947                         |
| 12                                    | 88,111                  | 86,203                | 80,436                | 78,105               | 75,467                | 80,949                | 50,160              | 71,698              | 75,666              | 87,736               | 85,955               | 83,384                         | 82,757                         |
| 13                                    | 87,967                  | 86,013                | 80,269                | 77,844               | 75,285                | 80,764                | 49,545              | 71,440              | 75,347              | 87,426               | 85,680               | 83,183                         | 82,563                         |
| 14                                    | 87,795                  | 85,814                | 80,090                | 77,561               | 75,094                | 80,566                | 48,931              | 71,150              | 74,985              | 87,091               | 85,375               | 82,955                         | 82,356                         |
| 15                                    | 87,619                  | 85,596                | 79,898                | 77,248               | 74,887                | 80,341                | 48,301              | 70,830              | 74,568              | 86,726               | 85,049               | 82,686                         | 82,120                         |
| 16                                    | 87,428                  | 85,346                | 79,692                | 76,903               | 74,661                | 80,083                | 47,658              | 70,484              | 74,092              | 86,329               | 84,693               | 82,371                         | 81,875                         |
| 17                                    | 87,215                  | 85,075                | 79,473                | 76,527               | 74,411                | 79,801                | 46,988              | 70,116              | 73,556              | 85,901               | 84,302               | 82,013                         | 81,593                         |
| 18                                    | 86,980                  | 84,789                | 79,244                | 76,124               | 74,143                | 79,513                | 46,293              | 69,728              | 72,963              | 85,443               | 83,891               | 81,620                         | 81,283                         |
| 19                                    | 86,728                  | 84,491                | 79,004                | 75,696               | 73,861                | 79,227                | 45,571              | 69,319              | 72,324              | 84,961               | 83,475               | 81,205                         | 80,916                         |
| 20                                    | 86,459                  | 84,180                | 78,756                | 75,246               | 73,564                | 78,937                | 44,828              | 68,891              | 71,652              | 84,459               | 83,053               | 80,778                         | 80,581                         |
| 21                                    | 86,175                  | 83,862                | 78,500                | 74,774               | 73,251                | 78,634                | 44,067              | 68,445              | 70,961              | 83,941               | 82,616               | 80,342                         | 80,186                         |
| 22                                    | 85,874                  | 83,537                | 78,235                | 74,285               | 72,929                | 78,316                | 43,293              | 67,984              | 70,262              | 83,411               | 82,159               | 79,895                         | 79,768                         |
| 23                                    | 85,556                  | 83,203                | 77,962                | 73,780               | 72,586                | 77,990                | 42,507              | 67,511              | 69,564              | 82,874               | 81,693               | 79,437                         | 79,335                         |
| 24                                    | 85,224                  | 82,857                | 77,681                | 73,261               | 72,225                | 77,661                | 41,709              | 67,030              | 68,871              | 82,332               | 81,235               | 78,968                         | 78,891                         |
| 25                                    | 84,875                  | 82,500                | 77,391                | 72,732               | 71,849                | 77,326                | 40,901              | 66,515              | 68,180              | 81,788               | 80,771               | 78,489                         | 78,437                         |
| 26                                    | 84,510                  | 82,134                | 77,092                | 72,197               | 71,463                | 76,980                | 40,083              | 66,057              | 67,510              | 81,243               | 80,290               | 78,004                         | 77,974                         |
| 27                                    | 84,132                  | 81,760                | 76,784                | 71,661               | 71,070                | 76,620                | 39,258              | 65,569              | 66,812              | 80,698               | 79,804               | 77,515                         | 77,500                         |
| 28                                    | 83,738                  | 81,377                | 76,462                | 71,129               | 70,669                | 76,253                | 38,426              | 65,080              | 66,180              | 80,153               | 79,328               | 77,022                         | 77,016                         |
| 29                                    | 83,328                  | 80,959                | 76,129                | 70,599               | 70,261                | 75,881                | 37,588              | 64,591              | 65,525              | 79,609               | 78,856               | 76,525                         | 76,519                         |
| 30                                    | 82,909                  | 80,598                | 75,779                | 70,068               | 69,848                | 75,501                | 36,745              | 64,103              | 64,874              | 79,064               | 78,352               | 76,025                         | 76,009                         |
| 31                                    | 82,478                  | 80,205                | 75,412                | 69,536               | 69,432                | 75,111                | 35,897              | 63,617              | 64,227              | 78,516               | 77,902               | 75,521                         | 75,488                         |
| 32                                    | 82,033                  | 79,806                | 75,028                | 69,002               | 69,008                | 74,708                | 35,045              | 63,133              | 63,551              | 77,964               | 77,434               | 75,012                         | 74,951                         |
| 33                                    | 81,576                  | 79,399                | 74,626                | 68,465               | 68,575                | 74,291                | 34,190              | 62,649              | 62,934              | 77,407               | 76,969               | 74,499                         | 74,409                         |
| 34                                    | 81,104                  | 78,967                | 74,206                | 67,923               | 68,132                | 73,864                | 33,332              | 62,165              | 62,285              | 76,845               | 76,493               | 73,980                         | 73,856                         |
| 35                                    | 80,618                  | 78,565                | 73,769                | 67,377               | 67,670                | 73,433                | 32,471              | 61,679              | 61,632              | 76,279               | 76,007               | 73,456                         | 73,295                         |
| 36                                    | 80,120                  | 78,133                | 73,314                | 66,825               | 67,215                | 72,995                | 31,608              | 61,192              | 60,971              | 75,712               | 75,512               | 72,926                         | 72,725                         |
| 37                                    | 79,609                  | 77,697                | 72,840                | 66,299               | 66,744                | 72,542                | 30,743              | 60,703              | 60,311              | 75,146               | 75,020               | 72,388                         | 72,149                         |
| 38                                    | 79,084                  | 77,253                | 72,347                | 65,709               | 66,266                | 72,078                | 29,876              | 60,211              | 59,645              | 74,580               | 74,515               | 71,839                         | 71,566                         |
| 39                                    | 78,549                  | 76,803                | 71,837                | 65,147               | 65,779                | 71,601                | 29,008              | 59,715              | 58,976              | 74,015               | 74,004               | 71,279                         | 70,978                         |
| 40                                    | 78,001                  | 76,341                | 71,308                | 64,583               | 65,283                | 71,109                | 28,139              | 59,215              | 58,308              | 73,449               | 73,496               | 70,706                         | 70,383                         |
| 41                                    | 77,441                  | 75,865                | 70,762                | 64,015               | 64,779                | 70,604                | 27,271              | 58,709              | 57,644              | 72,881               | 72,981               | 70,125                         | 69,782                         |
| 42                                    | 76,871                  | 75,375                | 70,196                | 63,441               | 64,269                | 70,095                | 26,406              | 58,199              | 56,987              | 72,312               | 72,459               | 69,540                         | 69,171                         |
| 43                                    | 76,289                  | 74,870                | 69,608                | 62,859               | 63,754                | 69,583                | 25,545              | 57,657              | 56,338              | 71,742               | 71,936               | 68,953                         | 68,545                         |
| 44                                    | 75,699                  | 74,332                | 68,996                | 62,266               | 63,235                | 69,069                | 24,689              | 57,177              | 55,699              | 71,174               | 71,413               | 68,364                         | 67,901                         |
| 45                                    | 75,103                  | 73,818                | 68,359                | 61,661               | 62,717                | 68,559                | 23,839              | 56,673              | 55,065              | 70,607               | 70,878               | 67,760                         | 67,235                         |
| 46                                    | 74,497                  | 73,276                | 67,696                | 61,043               | 62,181                | 68,032                | 22,997              | 56,174              | 54,432              | 70,038               | 70,333               | 67,152                         | 66,544                         |
| 47                                    | 73,882                  | 72,728                | 67,005                | 60,409               | 61,628                | 67,483                | 22,163              | 55,676              | 53,795              | 69,464               | 69,790               | 66,510                         | 65,828                         |
| 48                                    | 73,254                  | 72,165                | 66,282                | 59,757               | 61,033                | 66,921                | 21,338              | 55,169              | 53,147              | 68,879               | 69,201               | 65,833                         | 65,088                         |
| 49                                    | 72,609                  | 71,567                | 65,528                | 59,084               | 60,449                | 66,349                | 20,522              | 54,645              | 52,482              | 68,279               | 68,619               | 65,116                         | 64,326                         |

\* These derived values were all copied to the nearest integer when the radix is 100,000.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

## FOREIGN COUNTRIES.

211

## SURVIVORS OUT OF 100,000 BORN ALIVE.

TABLE 78

POPULATION AND DEATH STATISTICS, AND EXHIBITED HERE IN TABULAR FORM SO THAT A COMPARISON AT EACH AGE.

| AGE.                         | AUSTRALIA:<br>1901-1910 | DENMARK:<br>1906-1910 | ENGLAND:<br>1901-1910 | FRANCE:<br>1898-1903 | GERMANY:<br>1901-1910 | HOLLAND:<br>1900-1909 | INDIA:<br>1901-1910 | ITALY:<br>1901-1910 | JAPAN:<br>1898-1903 | NORWAY:<br>1901-1910 | SWEDEN:<br>1901-1910 | SWITZER-<br>LAND:<br>1901-1910 | UNITED<br>STATES:<br>1901-1910 |
|------------------------------|-------------------------|-----------------------|-----------------------|----------------------|-----------------------|-----------------------|---------------------|---------------------|---------------------|----------------------|----------------------|--------------------------------|--------------------------------|
| 1                            | 2                       | 3                     | 4                     | 5                    | 6                     | 7                     | 8                   | 9                   | 10                  | 11                   | 12                   | 13                             | 14                             |
| NUMBER OF SURVIVORS, $l_x$ . |                         |                       |                       |                      |                       |                       |                     |                     |                     |                      |                      |                                |                                |
| FEMALES.                     |                         |                       |                       |                      |                       |                       |                     |                     |                     |                      |                      |                                |                                |
| 50                           | 71,945                  | 70,990                | 61,742                | 58,385               | 59,812                | 65,733                | 19,714              | 54,097              | 51,794              | 67,660               | 68,005               | 61,362                         | 63,539                         |
| 51                           | 71,257                  | 70,333                | 61,922                | 57,659               | 59,138                | 65,070                | 18,914              | 53,520              | 51,079              | 67,020               | 67,386               | 61,567                         | 62,727                         |
| 52                           | 70,546                  | 69,675                | 63,063                | 56,904               | 58,418                | 64,373                | 18,123              | 52,911              | 50,334              | 66,358               | 66,741               | 62,733                         | 61,883                         |
| 53                           | 69,802                  | 68,903                | 62,137                | 56,119               | 57,648                | 63,646                | 17,342              | 52,269              | 49,557              | 65,673               | 66,085               | 61,851                         | 60,996                         |
| 54                           | 69,022                  | 68,212                | 61,198                | 55,302               | 56,837                | 62,884                | 16,572              | 51,596              | 48,746              | 64,962               | 65,389               | 60,920                         | 60,054                         |
| 55                           | 68,199                  | 67,428                | 60,179                | 54,452               | 55,984                | 62,092                | 15,813              | 50,894              | 47,898              | 64,224               | 64,639               | 59,931                         | 59,053                         |
| 56                           | 67,329                  | 66,628                | 59,097                | 53,563               | 55,077                | 61,262                | 15,064              | 50,159              | 47,011              | 63,457               | 63,866               | 58,881                         | 57,985                         |
| 57                           | 66,406                  | 65,796                | 57,951                | 52,629               | 54,106                | 60,387                | 14,325              | 49,381              | 46,082              | 62,657               | 63,062               | 57,757                         | 56,850                         |
| 58                           | 65,426                  | 64,911                | 56,743                | 51,640               | 53,067                | 59,405                | 13,596              | 48,544              | 45,106              | 61,822               | 62,219               | 56,555                         | 55,654                         |
| 59                           | 64,375                  | 63,969                | 55,478                | 50,572               | 51,959                | 58,390                | 12,876              | 47,633              | 44,079              | 60,919               | 61,319               | 55,268                         | 54,407                         |
| 60                           | 63,247                  | 62,958                | 54,157                | 49,441               | 50,780                | 57,299                | 12,165              | 46,638              | 42,998              | 60,032               | 60,387               | 53,897                         | 53,104                         |
| 61                           | 62,033                  | 61,861                | 52,782                | 48,237               | 49,524                | 56,110                | 11,462              | 45,553              | 41,859              | 59,065               | 59,384               | 52,441                         | 51,748                         |
| 62                           | 60,730                  | 60,674                | 51,351                | 46,960               | 48,176                | 54,829                | 10,768              | 44,375              | 40,658              | 58,040               | 58,325               | 50,893                         | 50,334                         |
| 63                           | 59,335                  | 59,399                | 49,860                | 45,609               | 46,725                | 53,466                | 10,084              | 43,103              | 39,394              | 56,950               | 57,213               | 49,242                         | 48,850                         |
| 64                           | 57,844                  | 58,026                | 48,314                | 44,187               | 45,178                | 52,016                | 9,410               | 41,745              | 38,064              | 55,789               | 56,013               | 47,479                         | 47,288                         |
| 65                           | 56,256                  | 56,545                | 46,716                | 42,094               | 43,540                | 50,471                | 8,747               | 40,310              | 36,668              | 54,552               | 54,733               | 45,607                         | 45,654                         |
| 66                           | 54,570                  | 54,951                | 45,066                | 41,130               | 41,816                | 48,838                | 8,096               | 38,797              | 35,206              | 53,230               | 53,369               | 43,633                         | 43,949                         |
| 67                           | 52,784                  | 53,249                | 43,351                | 39,493               | 40,007                | 47,106                | 7,458               | 37,195              | 33,679              | 51,839               | 51,921               | 41,570                         | 42,179                         |
| 68                           | 50,896                  | 51,420                | 41,556                | 37,771               | 38,111                | 45,263                | 6,835               | 35,491              | 32,090              | 50,358               | 50,366               | 39,428                         | 40,348                         |
| 69                           | 48,902                  | 49,467                | 39,659                | 35,958               | 36,129                | 43,304                | 6,227               | 33,673              | 30,444              | 48,791               | 48,705               | 37,209                         | 38,458                         |
| 70                           | 46,793                  | 47,405                | 37,646                | 34,053               | 34,078                | 41,243                | 5,637               | 31,742              | 28,745              | 47,135               | 46,943               | 34,922                         | 36,512                         |
| 71                           | 44,557                  | 45,216                | 35,522                | 32,061               | 31,963                | 39,109                | 5,067               | 29,708              | 27,000              | 45,385               | 45,051               | 32,577                         | 34,514                         |
| 72                           | 42,194                  | 42,916                | 33,301                | 29,989               | 29,777                | 36,896                | 4,519               | 27,589              | 25,217              | 43,536               | 43,091               | 30,192                         | 32,470                         |
| 73                           | 39,710                  | 40,563                | 31,027                | 27,850               | 27,535                | 34,586                | 3,994               | 25,409              | 23,406              | 41,582               | 40,944               | 27,783                         | 30,389                         |
| 74                           | 37,128                  | 38,150                | 28,723                | 25,665               | 25,273                | 32,191                | 3,494               | 23,201              | 21,578              | 39,520               | 38,739               | 25,361                         | 28,283                         |
| 75                           | 34,479                  | 35,651                | 26,418                | 23,454               | 23,006                | 29,770                | 3,022               | 20,997              | 19,745              | 37,350               | 36,453               | 22,944                         | 26,163                         |
| 76                           | 31,797                  | 33,082                | 24,135                | 21,237               | 20,745                | 27,340                | 2,581               | 18,819              | 17,928              | 35,082               | 34,010               | 20,557                         | 24,041                         |
| 77                           | 29,116                  | 30,443                | 21,891                | 19,036               | 18,526                | 24,883                | 2,172               | 16,683              | 16,141              | 32,732               | 31,502               | 18,235                         | 21,932                         |
| 78                           | 26,466                  | 27,714                | 19,699                | 16,878               | 16,372                | 22,428                | 1,798               | 14,602              | 14,399              | 30,320               | 28,877               | 16,004                         | 19,854                         |
| 79                           | 23,872                  | 24,981                | 17,578                | 14,787               | 14,299                | 20,015                | 1,458               | 12,589              | 12,716              | 27,872               | 26,338               | 13,889                         | 17,817                         |
| 80                           | 21,350                  | 22,300                | 15,545                | 12,789               | 12,348                | 17,659                | 1,159               | 10,667              | 11,106              | 25,413               | 23,715               | 11,903                         | 15,831                         |
| 81                           | 18,935                  | 19,645                | 13,613                | 10,913               | 10,539                | 15,402                | 898                 | 8,870               | 9,582               | 22,966               | 21,119               | 10,061                         | 13,897                         |
| 82                           | 16,628                  | 17,095                | 11,794                | 9,194                | 8,864                 | 13,286                | 676                 | 7,235               | 8,158               | 20,550               | 18,568               | 8,378                          | 12,041                         |
| 83                           | 14,450                  | 14,704                | 10,097                | 7,638                | 7,329                 | 11,316                | 492                 | 5,791               | 6,845               | 18,184               | 16,133               | 6,869                          | 10,302                         |
| 84                           | 12,414                  | 12,465                | 8,528                 | 6,253                | 5,955                 | 9,486                 | 345                 | 4,547               | 5,652               | 15,890               | 13,794               | 5,541                          | 8,710                          |
| 85                           | 10,527                  | 10,437                | 7,094                 | 5,037                | 4,752                 | 7,918                 | 231                 | 3,499               | 4,585               | 13,698               | 11,564               | 4,396                          | 7,265                          |
| 86                           | 8,795                   | 8,659                 | 5,803                 | 3,996                | 3,719                 | 6,346                 | 147                 | 2,634               | 3,647               | 11,639               | 9,557                | 3,428                          | 5,968                          |
| 87                           | 7,223                   | 7,075                 | 4,662                 | 3,143                | 2,850                 | 5,070                 | 88                  | 1,935               | 2,839               | 9,742                | 7,748                | 2,624                          | 4,824                          |
| 88                           | 5,823                   | 5,656                 | 3,678                 | 2,451                | 2,138                 | 3,975                 | 49                  | 1,383               | 2,158               | 8,031                | 6,155                | 1,967                          | 3,838                          |
| 89                           | 4,604                   | 4,389                 | 2,846                 | 1,895                | 1,571                 | 3,057                 | 25                  | 959                 | 1,597               | 6,516                | 4,705                | 1,439                          | 3,003                          |
| 90                           | 3,566                   | 3,309                 | 2,158                 | 1,452                | 1,131                 | 2,317                 | 12                  | 642                 | 1,148               | 5,195                | 3,654                | 1,023                          | 2,307                          |
| 91                           | 2,703                   | 2,400                 | 1,602                 | 1,103                | 797                   | 1,691                 | 5                   | 413                 | 798                 | 4,060                | 2,730                | 707                            | 1,738                          |
| 92                           | 1,990                   | 1,700                 | 1,163                 | 830                  | 549                   | 1,184                 | 2                   | 254                 | 535                 | 3,102                | 1,995                | 477                            | 1,281                          |
| 93                           | 1,441                   | 1,200                 | 827                   | 619                  | 370                   | 770                   | 1                   | 148                 | 344                 | 2,310                | 1,411                | 316                            | 924                            |
| 94                           | 1,010                   | 800                   | 576                   | 457                  | 244                   | 462                   | .....               | 81                  | 211                 | 1,674                | 970                  | 206                            | 652                            |
| 95                           | 687                     | 500                   | 393                   | 334                  | 157                   | 245                   | .....               | 42                  | 122                 | 1,151                | 653                  | 129                            | 450                            |
| 96                           | 453                     | 300                   | 263                   | 242                  | 99                    | 108                   | .....               | 20                  | 67                  | 813                  | 418                  | 77                             | 303                            |
| 97                           | 288                     | 150                   | 172                   | 173                  | 61                    | 37                    | .....               | 9                   | 34                  | 546                  | 256                  | 44                             | 201                            |
| 98                           | 175                     | 80                    | 111                   | 123                  | 37                    | 8                     | .....               | 4                   | 16                  | 358                  | 156                  | 23                             | 130                            |
| 99                           | 103                     | 40                    | 70                    | 56                   | 22                    | 2                     | .....               | 1                   | 7                   | 230                  | 95                   | 11                             | 83                             |
| 100                          | 56                      | 20                    | 43                    | 59                   | 13                    | .....                 | .....               | .....               | 3                   | 144                  | 55                   | 5                              | 51                             |

\* These derived values were all copied to the nearest integer when the radix is 100,000.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

## UNITED STATES LIFE TABLES.

TABLE 79

## FOREIGN COUNTRIES. MALES. NUMBER

TAKEN FROM THE PUBLISHED LIFE TABLES OF VARIOUS COUNTRIES. BASED ON THEIR OFFICIAL  
MAY BE MADE

| AGE.                             | AUSTRALIA:<br>1901-1910 | DENMARK:<br>1906-1910 | ENGLAND:<br>1901-1910 | FRANCE:<br>1898-1903 | GERMANY:<br>1901-1910 | HOLLAND:<br>1900-1909 | INDIA:<br>1901-1910 | ITALY:<br>1901-1910 | JAPAN:<br>1898-1903 | NORWAY:<br>1901-1910 | SWEDEN:<br>1901-1910 | SWITZER-<br>LAND:<br>1901-1910 | UNITED<br>STATES:<br>1901-1910 |
|----------------------------------|-------------------------|-----------------------|-----------------------|----------------------|-----------------------|-----------------------|---------------------|---------------------|---------------------|----------------------|----------------------|--------------------------------|--------------------------------|
| 1                                | 2                       | 3                     | 4                     | 5                    | 6                     | 7                     | 8                   | 9                   | 10                  | 11                   | 12                   | 13                             | 14                             |
| MALES. NUMBER OF DEATHS, $d_x$ . |                         |                       |                       |                      |                       |                       |                     |                     |                     |                      |                      |                                |                                |
| 0                                | 9,510                   | 12,067                | 14,434                | 16,326               | 20,234                | 14,016                | 28,998              | 16,771              | 15,686              | 8,145                | 9,255                | 13,810                         | 12,738                         |
| 1                                | 1,611                   | 1,461                 | 3,456                 | 2,635                | 3,181                 | 3,056                 | 6,473               | 5,859               | 3,108               | 1,686                | 2,066                | 1,894                          | 2,634                          |
| 2                                | 599                     | 588                   | 1,310                 | 1,520                | 1,143                 | 1,380                 | 4,241               | 2,383               | 2,104               | 777                  | 967                  | 824                            | 1,164                          |
| 3                                | 388                     | 384                   | 810                   | 945                  | 715                   | 747                   | 2,913               | 1,307               | 1,345               | 568                  | 690                  | 544                            | 734                            |
| 4                                | 307                     | 271                   | 592                   | 673                  | 516                   | 528                   | 2,069               | 861                 | 870                 | 458                  | 531                  | 420                            | 536                            |
| 5                                | 246                     | 243                   | 431                   | 493                  | 391                   | 398                   | 1,523               | 559                 | 605                 | 387                  | 531                  | 310                            | 431                            |
| 6                                | 205                     | 214                   | 314                   | 391                  | 314                   | 316                   | 1,168               | 360                 | 446                 | 310                  | 375                  | 268                            | 361                            |
| 7                                | 182                     | 194                   | 234                   | 330                  | 262                   | 262                   | 933                 | 239                 | 360                 | 309                  | 342                  | 241                            | 306                            |
| 8                                | 170                     | 176                   | 182                   | 283                  | 221                   | 222                   | 786                 | 177                 | 311                 | 289                  | 302                  | 218                            | 262                            |
| 9                                | 160                     | 162                   | 154                   | 251                  | 196                   | 195                   | 686                 | 156                 | 274                 | 272                  | 275                  | 201                            | 230                            |
| 10                               | 155                     | 152                   | 142                   | 230                  | 177                   | 178                   | 626                 | 161                 | 248                 | 259                  | 273                  | 182                            | 211                            |
| 11                               | 155                     | 149                   | 143                   | 217                  | 163                   | 164                   | 593                 | 182                 | 236                 | 248                  | 250                  | 170                            | 202                            |
| 12                               | 159                     | 149                   | 151                   | 214                  | 153                   | 158                   | 585                 | 211                 | 236                 | 245                  | 236                  | 164                            | 203                            |
| 13                               | 171                     | 155                   | 167                   | 221                  | 155                   | 162                   | 590                 | 240                 | 263                 | 255                  | 232                  | 166                            | 214                            |
| 14                               | 193                     | 174                   | 183                   | 244                  | 172                   | 178                   | 605                 | 267                 | 306                 | 287                  | 238                  | 184                            | 231                            |
| 15                               | 219                     | 207                   | 202                   | 281                  | 199                   | 203                   | 626                 | 289                 | 350                 | 349                  | 269                  | 216                            | 253                            |
| 16                               | 240                     | 233                   | 220                   | 326                  | 235                   | 234                   | 651                 | 310                 | 404                 | 437                  | 323                  | 263                            | 282                            |
| 17                               | 259                     | 251                   | 237                   | 374                  | 273                   | 273                   | 676                 | 332                 | 461                 | 536                  | 375                  | 313                            | 315                            |
| 18                               | 282                     | 272                   | 254                   | 421                  | 311                   | 322                   | 703                 | 361                 | 516                 | 629                  | 440                  | 357                            | 350                            |
| 19                               | 296                     | 293                   | 271                   | 468                  | 342                   | 366                   | 724                 | 393                 | 561                 | 707                  | 488                  | 389                            | 387                            |
| 20                               | 313                     | 316                   | 288                   | 510                  | 356                   | 388                   | 742                 | 425                 | 592                 | 751                  | 523                  | 407                            | 425                            |
| 21                               | 329                     | 331                   | 304                   | 544                  | 356                   | 392                   | 758                 | 450                 | 608                 | 765                  | 530                  | 415                            | 454                            |
| 22                               | 339                     | 343                   | 316                   | 561                  | 353                   | 388                   | 773                 | 466                 | 611                 | 763                  | 521                  | 417                            | 464                            |
| 23                               | 349                     | 352                   | 326                   | 558                  | 350                   | 383                   | 787                 | 470                 | 605                 | 747                  | 519                  | 418                            | 466                            |
| 24                               | 361                     | 338                   | 333                   | 545                  | 351                   | 377                   | 800                 | 465                 | 590                 | 723                  | 508                  | 422                            | 469                            |
| 25                               | 371                     | 325                   | 338                   | 528                  | 353                   | 367                   | 817                 | 454                 | 572                 | 694                  | 496                  | 427                            | 471                            |
| 26                               | 383                     | 329                   | 346                   | 512                  | 355                   | 357                   | 825                 | 443                 | 554                 | 665                  | 493                  | 435                            | 476                            |
| 27                               | 392                     | 332                   | 357                   | 507                  | 356                   | 352                   | 829                 | 436                 | 537                 | 638                  | 480                  | 443                            | 487                            |
| 28                               | 403                     | 335                   | 373                   | 511                  | 359                   | 350                   | 833                 | 433                 | 526                 | 613                  | 476                  | 451                            | 504                            |
| 29                               | 409                     | 340                   | 391                   | 519                  | 366                   | 351                   | 838                 | 429                 | 519                 | 592                  | 473                  | 456                            | 519                            |
| 30                               | 419                     | 353                   | 412                   | 532                  | 373                   | 346                   | 843                 | 428                 | 516                 | 574                  | 463                  | 462                            | 535                            |
| 31                               | 434                     | 363                   | 433                   | 546                  | 381                   | 338                   | 853                 | 427                 | 517                 | 559                  | 462                  | 470                            | 554                            |
| 32                               | 447                     | 374                   | 454                   | 563                  | 392                   | 341                   | 861                 | 428                 | 522                 | 549                  | 457                  | 486                            | 575                            |
| 33                               | 462                     | 386                   | 475                   | 578                  | 410                   | 356                   | 868                 | 430                 | 528                 | 542                  | 452                  | 504                            | 597                            |
| 34                               | 475                     | 398                   | 495                   | 595                  | 432                   | 371                   | 873                 | 433                 | 537                 | 538                  | 454                  | 524                            | 619                            |
| 35                               | 498                     | 407                   | 516                   | 611                  | 454                   | 382                   | 877                 | 437                 | 547                 | 537                  | 473                  | 543                            | 643                            |
| 36                               | 518                     | 419                   | 538                   | 627                  | 475                   | 396                   | 880                 | 445                 | 559                 | 537                  | 472                  | 564                            | 661                            |
| 37                               | 541                     | 440                   | 560                   | 642                  | 499                   | 411                   | 880                 | 455                 | 574                 | 538                  | 480                  | 588                            | 673                            |
| 38                               | 568                     | 462                   | 583                   | 653                  | 527                   | 427                   | 881                 | 469                 | 589                 | 540                  | 492                  | 618                            | 680                            |
| 39                               | 595                     | 487                   | 607                   | 665                  | 551                   | 449                   | 879                 | 487                 | 606                 | 544                  | 517                  | 647                            | 689                            |
| 40                               | 619                     | 516                   | 630                   | 681                  | 577                   | 469                   | 876                 | 506                 | 625                 | 548                  | 545                  | 679                            | 697                            |
| 41                               | 647                     | 547                   | 656                   | 699                  | 608                   | 487                   | 873                 | 525                 | 647                 | 555                  | 555                  | 710                            | 709                            |
| 42                               | 679                     | 578                   | 685                   | 720                  | 640                   | 506                   | 868                 | 544                 | 669                 | 563                  | 569                  | 745                            | 732                            |
| 43                               | 714                     | 608                   | 717                   | 742                  | 668                   | 530                   | 862                 | 559                 | 694                 | 575                  | 583                  | 782                            | 761                            |
| 44                               | 749                     | 645                   | 750                   | 766                  | 700                   | 566                   | 854                 | 573                 | 723                 | 588                  | 595                  | 820                            | 793                            |
| 45                               | 785                     | 674                   | 786                   | 791                  | 739                   | 597                   | 848                 | 587                 | 754                 | 603                  | 638                  | 855                            | 829                            |
| 46                               | 819                     | 694                   | 823                   | 818                  | 774                   | 620                   | 839                 | 604                 | 786                 | 620                  | 645                  | 889                            | 860                            |
| 47                               | 854                     | 716                   | 864                   | 844                  | 806                   | 649                   | 829                 | 627                 | 821                 | 640                  | 678                  | 927                            | 876                            |
| 48                               | 882                     | 741                   | 906                   | 869                  | 851                   | 686                   | 820                 | 656                 | 858                 | 662                  | 662                  | 974                            | 883                            |
| 49                               | 918                     | 770                   | 948                   | 893                  | 893                   | 715                   | 809                 | 689                 | 895                 | 688                  | 725                  | 1,027                          | 893                            |

\* These derived values agree with those for  $l_x$  in Table 77, p. 208. See footnote to that table.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

## OF DEATHS OUT OF 100,000 BORN ALIVE.

TABLE 79

POPULATION AND DEATH STATISTICS, AND EXHIBITED HERE IN TABULAR FORM SO THAT A COMPARISON AT EACH AGE.

| AGE.                      | AUSTRALIA:<br>1901-1910 | DENMARK:<br>1906-1910 | ENGLAND:<br>1901-1910 | FRANCE:<br>1898-1903 | GERMANY:<br>1901-1910 | HOLLAND:<br>1900-1909 | INDIA:<br>1901-1910 | ITALY:<br>1901-1910 | JAPAN:<br>1898-1903 | NORWAY:<br>1901-1910 | SWEDEN:<br>1901-1910 | SWITZER-<br>LAND:<br>1901-1910 | UNITED<br>STATES:<br>1901-1910 |
|---------------------------|-------------------------|-----------------------|-----------------------|----------------------|-----------------------|-----------------------|---------------------|---------------------|---------------------|----------------------|----------------------|--------------------------------|--------------------------------|
| 1                         | 2                       | 3                     | 4                     | 5                    | 6                     | 7                     | 8                   | 9                   | 10                  | 11                   | 12                   | 13                             | 14                             |
| NUMBER OF DEATHS, $d_x$ . |                         |                       |                       |                      |                       |                       |                     |                     |                     |                      |                      |                                | MALES.                         |
| 50                        | 951                     | 811                   | 993                   | 915                  | 937                   | 745                   | 798                 | 724                 | 934                 | 715                  | 739                  | 1,085                          | 901                            |
| 51                        | 984                     | 854                   | 1,040                 | 938                  | 984                   | 779                   | 786                 | 760                 | 975                 | 743                  | 788                  | 1,143                          | 920                            |
| 52                        | 1,020                   | 904                   | 1,091                 | 960                  | 1,031                 | 821                   | 775                 | 796                 | 1,020               | 773                  | 818                  | 1,199                          | 962                            |
| 53                        | 1,058                   | 960                   | 1,144                 | 985                  | 1,076                 | 876                   | 762                 | 827                 | 1,064               | 800                  | 853                  | 1,255                          | 1,021                          |
| 54                        | 1,101                   | 1,025                 | 1,200                 | 1,016                | 1,126                 | 937                   | 750                 | 854                 | 1,113               | 828                  | 903                  | 1,308                          | 1,084                          |
| 55                        | 1,146                   | 1,088                 | 1,256                 | 1,055                | 1,183                 | 997                   | 738                 | 884                 | 1,163               | 857                  | 940                  | 1,359                          | 1,156                          |
| 56                        | 1,198                   | 1,155                 | 1,315                 | 1,102                | 1,231                 | 1,050                 | 724                 | 922                 | 1,216               | 888                  | 952                  | 1,413                          | 1,227                          |
| 57                        | 1,258                   | 1,216                 | 1,374                 | 1,158                | 1,272                 | 1,109                 | 712                 | 974                 | 1,271               | 923                  | 993                  | 1,475                          | 1,283                          |
| 58                        | 1,327                   | 1,291                 | 1,433                 | 1,216                | 1,320                 | 1,169                 | 699                 | 1,040               | 1,328               | 964                  | 1,051                | 1,545                          | 1,330                          |
| 59                        | 1,396                   | 1,311                 | 1,493                 | 1,274                | 1,373                 | 1,231                 | 685                 | 1,116               | 1,365               | 1,013                | 1,117                | 1,613                          | 1,378                          |
| 60                        | 1,467                   | 1,377                 | 1,552                 | 1,332                | 1,428                 | 1,301                 | 672                 | 1,195               | 1,443               | 1,069                | 1,168                | 1,676                          | 1,426                          |
| 61                        | 1,543                   | 1,436                 | 1,608                 | 1,388                | 1,487                 | 1,355                 | 659                 | 1,275               | 1,501               | 1,132                | 1,268                | 1,728                          | 1,478                          |
| 62                        | 1,619                   | 1,505                 | 1,683                 | 1,443                | 1,549                 | 1,438                 | 646                 | 1,351               | 1,557               | 1,202                | 1,252                | 1,779                          | 1,537                          |
| 63                        | 1,698                   | 1,572                 | 1,711                 | 1,494                | 1,606                 | 1,543                 | 632                 | 1,415               | 1,612               | 1,277                | 1,356                | 1,829                          | 1,602                          |
| 64                        | 1,785                   | 1,632                 | 1,752                 | 1,544                | 1,658                 | 1,627                 | 618                 | 1,468               | 1,663               | 1,355                | 1,434                | 1,884                          | 1,662                          |
| 65                        | 1,878                   | 1,706                 | 1,790                 | 1,595                | 1,698                 | 1,722                 | 604                 | 1,521               | 1,710               | 1,435                | 1,503                | 1,936                          | 1,717                          |
| 66                        | 1,979                   | 1,793                 | 1,829                 | 1,649                | 1,744                 | 1,815                 | 590                 | 1,584               | 1,749               | 1,513                | 1,564                | 1,986                          | 1,762                          |
| 67                        | 2,081                   | 1,885                 | 1,873                 | 1,705                | 1,799                 | 1,883                 | 574                 | 1,663               | 1,781               | 1,587                | 1,716                | 2,028                          | 1,797                          |
| 68                        | 2,182                   | 1,974                 | 1,921                 | 1,762                | 1,840                 | 1,958                 | 558                 | 1,733               | 1,805               | 1,657                | 1,751                | 2,062                          | 1,824                          |
| 69                        | 2,275                   | 2,072                 | 1,967                 | 1,822                | 1,862                 | 2,043                 | 542                 | 1,842               | 1,820               | 1,724                | 1,826                | 2,084                          | 1,846                          |
| 70                        | 2,359                   | 2,182                 | 2,005                 | 1,876                | 1,882                 | 2,117                 | 522                 | 1,924               | 1,825               | 1,792                | 1,934                | 2,093                          | 1,860                          |
| 71                        | 2,428                   | 2,241                 | 2,033                 | 1,920                | 1,909                 | 2,158                 | 503                 | 1,992               | 1,821               | 1,864                | 2,008                | 2,086                          | 1,877                          |
| 72                        | 2,483                   | 2,261                 | 2,043                 | 1,947                | 1,929                 | 2,215                 | 482                 | 2,042               | 1,803               | 1,940                | 2,094                | 2,068                          | 1,902                          |
| 73                        | 2,518                   | 2,295                 | 2,040                 | 1,948                | 1,926                 | 2,277                 | 458                 | 2,062               | 1,773               | 2,018                | 2,159                | 2,040                          | 1,925                          |
| 74                        | 2,525                   | 2,335                 | 2,023                 | 1,959                | 1,904                 | 2,299                 | 433                 | 2,053               | 1,727               | 2,091                | 2,258                | 2,005                          | 1,939                          |
| 75                        | 2,495                   | 2,373                 | 1,988                 | 1,936                | 1,871                 | 2,302                 | 405                 | 2,028               | 1,674               | 2,155                | 2,329                | 1,962                          | 1,942                          |
| 76                        | 2,433                   | 2,409                 | 1,930                 | 1,895                | 1,813                 | 2,292                 | 375                 | 1,992               | 1,609               | 2,205                | 2,342                | 1,908                          | 1,922                          |
| 77                        | 2,347                   | 2,449                 | 1,851                 | 1,832                | 1,733                 | 2,250                 | 342                 | 1,947               | 1,532               | 2,241                | 2,386                | 1,839                          | 1,870                          |
| 78                        | 2,240                   | 2,438                 | 1,748                 | 1,749                | 1,644                 | 2,170                 | 309                 | 1,895               | 1,444               | 2,260                | 2,442                | 1,747                          | 1,797                          |
| 79                        | 2,117                   | 2,368                 | 1,629                 | 1,629                | 1,538                 | 2,105                 | 273                 | 1,821               | 1,347               | 2,262                | 2,378                | 1,630                          | 1,721                          |
| 80                        | 1,976                   | 2,288                 | 1,503                 | 1,472                | 1,419                 | 2,011                 | 236                 | 1,711               | 1,241               | 2,242                | 2,337                | 1,490                          | 1,644                          |
| 81                        | 1,826                   | 2,171                 | 1,374                 | 1,297                | 1,293                 | 1,876                 | 200                 | 1,562               | 1,128               | 2,197                | 2,229                | 1,334                          | 1,548                          |
| 82                        | 1,671                   | 2,015                 | 1,249                 | 1,134                | 1,159                 | 1,725                 | 164                 | 1,380               | 1,011               | 2,123                | 2,166                | 1,172                          | 1,429                          |
| 83                        | 1,514                   | 1,846                 | 1,128                 | 986                  | 1,022                 | 1,573                 | 130                 | 1,156               | 892                 | 2,020                | 2,008                | 1,009                          | 1,299                          |
| 84                        | 1,346                   | 1,640                 | 1,005                 | 848                  | 882                   | 1,411                 | 100                 | 995                 | 774                 | 1,891                | 1,878                | 855                            | 1,161                          |
| 85                        | 1,181                   | 1,413                 | 884                   | 700                  | 744                   | 1,241                 | 74                  | 816                 | 659                 | 1,741                | 1,679                | 712                            | 1,017                          |
| 86                        | 1,010                   | 1,205                 | 760                   | 559                  | 612                   | 1,051                 | 51                  | 655                 | 549                 | 1,574                | 1,486                | 586                            | 873                            |
| 87                        | 857                     | 1,067                 | 639                   | 441                  | 492                   | 869                   | 33                  | 513                 | 448                 | 1,395                | 1,254                | 473                            | 735                            |
| 88                        | 711                     | 949                   | 526                   | 344                  | 386                   | 713                   | 21                  | 391                 | 356                 | 1,212                | 1,056                | 371                            | 606                            |
| 89                        | 578                     | 771                   | 423                   | 265                  | 295                   | 575                   | 12                  | 290                 | 275                 | 1,032                | 877                  | 281                            | 491                            |
| 90                        | 458                     | .....                 | 330                   | 202                  | 219                   | 474                   | 6                   | 208                 | 206                 | 802                  | 683                  | 204                            | 390                            |
| 91                        | 354                     | .....                 | 249                   | 151                  | 157                   | 407                   | 3                   | 144                 | 150                 | 705                  | 516                  | 146                            | 304                            |
| 92                        | 266                     | .....                 | 180                   | 112                  | 110                   | 310                   | 1                   | 95                  | 104                 | 565                  | 385                  | 101                            | 232                            |
| 93                        | 194                     | .....                 | 124                   | 82                   | 74                    | 209                   | 1                   | 60                  | 70                  | 442                  | 270                  | 71                             | 174                            |
| 94                        | 136                     | .....                 | 85                    | 59                   | 49                    | 125                   | .....               | 35                  | 44                  | 335                  | 194                  | 48                             | 126                            |
| 95                        | 93                      | .....                 | 55                    | 42                   | 30                    | 67                    | .....               | 20                  | 27                  | 246                  | 132                  | 32                             | 91                             |
| 96                        | 61                      | .....                 | 35                    | 29                   | 19                    | 31                    | .....               | 10                  | 15                  | 175                  | 84                   | 20                             | 62                             |
| 97                        | 38                      | .....                 | 23                    | 19                   | 11                    | 10                    | .....               | 5                   | 8                   | 121                  | 49                   | 12                             | 43                             |
| 98                        | 24                      | .....                 | 14                    | 13                   | 7                     | 3                     | .....               | 2                   | 4                   | 81                   | 28                   | 6                              | 27                             |
| 99                        | 12                      | .....                 | 9                     | 8                    | 3                     | .....                 | .....               | 1                   | 2                   | 52                   | 19                   | 3                              | 13                             |
| 100                       | 8                       | .....                 | 6                     | 5                    | .....                 | .....                 | .....               | .....               | 1                   | 33                   | 10                   | 1                              | 11                             |

\* These derived values agree with those for  $l_x$  in Table 77, p. 208. See footnote to that table.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

## UNITED STATES LIFE TABLES.

TABLE 80

FOREIGN COUNTRIES. FEMALES. NUMBER

TAKEN FROM THE PUBLISHED LIFE TABLES OF VARIOUS COUNTRIES, BASED ON THEIR OFFICIAL  
MAY BE MADE

| AGE.                               | AUSTRALIA:<br>1901-1910 | DENMARK:<br>1906-1910 | ENGLAND:<br>1901-1910 | FRANCE:<br>1898-1903 | GERMANY:<br>1901-1910 | HOLLAND:<br>1900-1909 | INDIA:<br>1901-1910 | ITALY:<br>1901-1910 | JAPAN:<br>1898-1903 | NORWAY:<br>1901-1910 | SWEDEN:<br>1901-1910 | SWITZER-<br>LAND:<br>1901-1910 | UNITED<br>STATES:<br>1901-1910 |
|------------------------------------|-------------------------|-----------------------|-----------------------|----------------------|-----------------------|-----------------------|---------------------|---------------------|---------------------|----------------------|----------------------|--------------------------------|--------------------------------|
| 1                                  | 2                       | 3                     | 4                     | 5                    | 6                     | 7                     | 8                   | 9                   | 10                  | 11                   | 12                   | 13                             | 14                             |
| FEMALES. NUMBER OF DEATHS, $d_x$ . |                         |                       |                       |                      |                       |                       |                     |                     |                     |                      |                      |                                |                                |
| 0                                  | 7,953                   | 9,771                 | 11,743                | 13,649               | 17,048                | 11,789                | 23,460              | 15,211              | 14,092              | 6,679                | 7,598                | 11,258                         | 10,551                         |
| 1                                  | 1,532                   | 1,413                 | 3,323                 | 2,734                | 3,191                 | 3,019                 | 6,165               | 6,051               | 3,091               | 1,561                | 1,960                | 1,918                          | 2,453                          |
| 2                                  | 569                     | 558                   | 1,298                 | 1,467                | 1,167                 | 1,339                 | 4,027               | 2,503               | 2,155               | 829                  | 933                  | 820                            | 1,097                          |
| 3                                  | 370                     | 389                   | 841                   | 950                  | 727                   | 688                   | 2,706               | 1,361               | 1,397               | 562                  | 679                  | 538                            | 711                            |
| 4                                  | 291                     | 281                   | 619                   | 704                  | 533                   | 195                   | 1,074               | 931                 | 926                 | 444                  | 515                  | 412                            | 520                            |
| 5                                  | 230                     | 225                   | 455                   | 522                  | 410                   | 383                   | 1,485               | 628                 | 635                 | 385                  | 458                  | 345                            | 423                            |
| 6                                  | 190                     | 204                   | 336                   | 421                  | 337                   | 309                   | 1,169               | 427                 | 463                 | 343                  | 383                  | 271                            | 350                            |
| 7                                  | 170                     | 191                   | 255                   | 354                  | 286                   | 259                   | 959                 | 302                 | 372                 | 312                  | 331                  | 218                            | 292                            |
| 8                                  | 155                     | 167                   | 203                   | 307                  | 243                   | 224                   | 817                 | 234                 | 324                 | 292                  | 319                  | 225                            | 246                            |
| 9                                  | 145                     | 182                   | 173                   | 276                  | 213                   | 201                   | 728                 | 208                 | 300                 | 282                  | 287                  | 205                            | 214                            |
| 10                                 | 140                     | 180                   | 161                   | 258                  | 194                   | 185                   | 663                 | 209                 | 287                 | 282                  | 281                  | 189                            | 196                            |
| 11                                 | 144                     | 183                   | 159                   | 253                  | 184                   | 180                   | 627                 | 229                 | 292                 | 290                  | 272                  | 187                            | 190                            |
| 12                                 | 154                     | 190                   | 167                   | 261                  | 182                   | 185                   | 615                 | 258                 | 319                 | 310                  | 275                  | 201                            | 191                            |
| 13                                 | 162                     | 199                   | 179                   | 283                  | 191                   | 198                   | 614                 | 290                 | 362                 | 335                  | 305                  | 228                            | 207                            |
| 14                                 | 176                     | 218                   | 192                   | 313                  | 207                   | 225                   | 627                 | 320                 | 417                 | 365                  | 326                  | 269                            | 227                            |
| 15                                 | 191                     | 250                   | 206                   | 345                  | 220                   | 258                   | 640                 | 346                 | 476                 | 397                  | 356                  | 315                            | 254                            |
| 16                                 | 213                     | 271                   | 219                   | 376                  | 250                   | 282                   | 670                 | 368                 | 536                 | 428                  | 391                  | 358                            | 282                            |
| 17                                 | 235                     | 296                   | 220                   | 403                  | 268                   | 288                   | 695                 | 398                 | 593                 | 458                  | 408                  | 393                            | 310                            |
| 18                                 | 252                     | 298                   | 240                   | 428                  | 282                   | 286                   | 722                 | 409                 | 639                 | 482                  | 419                  | 415                            | 337                            |
| 19                                 | 269                     | 311                   | 248                   | 450                  | 297                   | 290                   | 743                 | 428                 | 672                 | 502                  | 422                  | 427                            | 365                            |
| 20                                 | 284                     | 318                   | 256                   | 472                  | 310                   | 303                   | 761                 | 446                 | 691                 | 518                  | 437                  | 436                            | 395                            |
| 21                                 | 301                     | 325                   | 265                   | 489                  | 325                   | 318                   | 774                 | 461                 | 699                 | 530                  | 457                  | 447                            | 418                            |
| 22                                 | 318                     | 331                   | 273                   | 505                  | 343                   | 326                   | 786                 | 473                 | 698                 | 537                  | 466                  | 458                            | 433                            |
| 23                                 | 332                     | 346                   | 281                   | 519                  | 361                   | 329                   | 798                 | 481                 | 693                 | 542                  | 458                  | 469                            | 444                            |
| 24                                 | 349                     | 357                   | 290                   | 529                  | 376                   | 335                   | 808                 | 485                 | 685                 | 544                  | 461                  | 470                            | 454                            |
| 25                                 | 365                     | 366                   | 299                   | 535                  | 386                   | 346                   | 818                 | 488                 | 676                 | 545                  | 481                  | 485                            | 463                            |
| 26                                 | 378                     | 374                   | 308                   | 536                  | 393                   | 360                   | 825                 | 488                 | 668                 | 545                  | 486                  | 489                            | 474                            |
| 27                                 | 394                     | 383                   | 321                   | 532                  | 401                   | 367                   | 832                 | 489                 | 662                 | 545                  | 476                  | 493                            | 484                            |
| 28                                 | 410                     | 388                   | 334                   | 530                  | 408                   | 372                   | 838                 | 489                 | 655                 | 544                  | 472                  | 497                            | 497                            |
| 29                                 | 419                     | 391                   | 350                   | 531                  | 413                   | 380                   | 843                 | 488                 | 651                 | 545                  | 474                  | 500                            | 510                            |
| 30                                 | 431                     | 393                   | 367                   | 532                  | 416                   | 390                   | 848                 | 486                 | 647                 | 548                  | 480                  | 504                            | 521                            |
| 31                                 | 445                     | 399                   | 384                   | 534                  | 424                   | 403                   | 852                 | 484                 | 646                 | 552                  | 468                  | 509                            | 534                            |
| 32                                 | 457                     | 407                   | 402                   | 537                  | 433                   | 417                   | 855                 | 484                 | 647                 | 557                  | 465                  | 513                            | 545                            |
| 33                                 | 472                     | 412                   | 420                   | 542                  | 443                   | 427                   | 858                 | 484                 | 649                 | 562                  | 476                  | 519                            | 553                            |
| 34                                 | 480                     | 422                   | 437                   | 546                  | 453                   | 431                   | 861                 | 486                 | 653                 | 566                  | 486                  | 524                            | 561                            |
| 35                                 | 498                     | 432                   | 455                   | 552                  | 464                   | 438                   | 863                 | 487                 | 658                 | 567                  | 495                  | 530                            | 570                            |
| 36                                 | 511                     | 436                   | 474                   | 556                  | 471                   | 453                   | 865                 | 489                 | 663                 | 566                  | 492                  | 538                            | 576                            |
| 37                                 | 525                     | 444                   | 493                   | 560                  | 478                   | 464                   | 867                 | 492                 | 666                 | 566                  | 505                  | 549                            | 583                            |
| 38                                 | 535                     | 450                   | 510                   | 562                  | 487                   | 477                   | 868                 | 496                 | 669                 | 565                  | 511                  | 560                            | 588                            |
| 39                                 | 548                     | 462                   | 529                   | 564                  | 496                   | 495                   | 869                 | 500                 | 668                 | 566                  | 508                  | 573                            | 595                            |
| 40                                 | 560                     | 476                   | 546                   | 568                  | 504                   | 503                   | 868                 | 501                 | 664                 | 568                  | 515                  | 581                            | 601                            |
| 41                                 | 570                     | 490                   | 566                   | 574                  | 510                   | 509                   | 865                 | 510                 | 657                 | 569                  | 522                  | 585                            | 611                            |
| 42                                 | 582                     | 505                   | 588                   | 582                  | 515                   | 512                   | 861                 | 512                 | 649                 | 570                  | 523                  | 587                            | 626                            |
| 43                                 | 590                     | 518                   | 612                   | 593                  | 516                   | 514                   | 856                 | 510                 | 639                 | 568                  | 523                  | 589                            | 644                            |
| 44                                 | 596                     | 534                   | 637                   | 605                  | 521                   | 513                   | 850                 | 504                 | 634                 | 567                  | 535                  | 598                            | 666                            |
| 45                                 | 606                     | 542                   | 663                   | 618                  | 536                   | 524                   | 842                 | 499                 | 633                 | 569                  | 545                  | 614                            | 691                            |
| 46                                 | 615                     | 548                   | 691                   | 634                  | 553                   | 519                   | 834                 | 498                 | 637                 | 574                  | 543                  | 642                            | 716                            |
| 47                                 | 629                     | 563                   | 723                   | 652                  | 575                   | 562                   | 825                 | 507                 | 648                 | 585                  | 559                  | 677                            | 740                            |
| 48                                 | 645                     | 578                   | 754                   | 673                  | 604                   | 572                   | 816                 | 521                 | 665                 | 600                  | 582                  | 717                            | 762                            |
| 49                                 | 664                     | 597                   | 786                   | 699                  | 637                   | 616                   | 808                 | 518                 | 688                 | 619                  | 614                  | 751                            | 787                            |

\* These derived values agree with those for  $l_x$  in Table 78, p. 210. See footnote to that table.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

## OF DEATHS OUT OF 100,000 BORN ALIVE.

TABLE 80

POPULATION AND DEATH STATISTICS, AND EXHIBITED HERE IN TABULAR FORM SO THAT A COMPARISON AT EACH AGE.

| AGE.                      | AUSTRALIA:<br>1901-1910<br>* | DENMARK:<br>1906-1910<br>* | ENGLAND:<br>1901-1910<br>* | FRANCE:<br>1898-1903 | GERMANY:<br>1901-1910<br>* | HOLLAND:<br>1900-1909 | INDIA:<br>1901-1910 | ITALY:<br>1901-1910<br>* | JAPAN:<br>1898-1903 | NORWAY:<br>1901-1910 | SWEDEN:<br>1901-1910<br>* | SWITZER-<br>LAND:<br>1901-1910<br>* | UNITED<br>STATES:<br>1901-1910<br>† |
|---------------------------|------------------------------|----------------------------|----------------------------|----------------------|----------------------------|-----------------------|---------------------|--------------------------|---------------------|----------------------|---------------------------|-------------------------------------|-------------------------------------|
| 1                         | 2                            | 3                          | 4                          | 5                    | 6                          | 7                     | 8                   | 9                        | 10                  | 11                   | 12                        | 13                                  | 14                                  |
| NUMBER OF DEATHS, $d_x$ . |                              |                            |                            |                      |                            |                       |                     |                          |                     |                      |                           |                                     |                                     |
| FEMALES.                  |                              |                            |                            |                      |                            |                       |                     |                          |                     |                      |                           |                                     |                                     |
| 50                        | 688                          | 637                        | 820                        | 726                  | 674                        | 663                   | 800                 | 577                      | 715                 | 640                  | 619                       | 795                                 | 812                                 |
| 51                        | 711                          | 678                        | 859                        | 755                  | 720                        | 697                   | 791                 | 609                      | 745                 | 662                  | 645                       | 834                                 | 844                                 |
| 52                        | 744                          | 712                        | 906                        | 785                  | 770                        | 727                   | 781                 | 642                      | 777                 | 685                  | 656                       | 882                                 | 887                                 |
| 53                        | 780                          | 751                        | 959                        | 817                  | 811                        | 762                   | 770                 | 673                      | 811                 | 711                  | 696                       | 931                                 | 942                                 |
| 54                        | 823                          | 784                        | 1,019                      | 850                  | 853                        | 792                   | 759                 | 702                      | 848                 | 738                  | 750                       | 989                                 | 1,001                               |
| 55                        | 870                          | 890                        | 1,082                      | 889                  | 907                        | 830                   | 749                 | 735                      | 887                 | 767                  | 773                       | 1,050                               | 1,068                               |
| 56                        | 923                          | 832                        | 1,146                      | 934                  | 971                        | 895                   | 739                 | 778                      | 929                 | 800                  | 804                       | 1,124                               | 1,135                               |
| 57                        | 980                          | 885                        | 1,208                      | 989                  | 1,039                      | 962                   | 726                 | 837                      | 976                 | 835                  | 843                       | 1,202                               | 1,196                               |
| 58                        | 1,051                        | 942                        | 1,265                      | 1,068                | 1,108                      | 1,015                 | 720                 | 911                      | 1,027               | 873                  | 900                       | 1,287                               | 1,247                               |
| 59                        | 1,128                        | 1,011                      | 1,321                      | 1,131                | 1,179                      | 1,091                 | 711                 | 993                      | 1,081               | 917                  | 932                       | 1,371                               | 1,303                               |
| 60                        | 1,214                        | 1,097                      | 1,375                      | 1,204                | 1,256                      | 1,189                 | 703                 | 1,085                    | 1,139               | 967                  | 1,003                     | 1,456                               | 1,358                               |
| 61                        | 1,303                        | 1,187                      | 1,431                      | 1,277                | 1,348                      | 1,281                 | 694                 | 1,178                    | 1,201               | 1,025                | 1,059                     | 1,548                               | 1,414                               |
| 62                        | 1,395                        | 1,275                      | 1,491                      | 1,351                | 1,451                      | 1,363                 | 684                 | 1,272                    | 1,264               | 1,090                | 1,112                     | 1,651                               | 1,484                               |
| 63                        | 1,491                        | 1,373                      | 1,546                      | 1,422                | 1,547                      | 1,450                 | 674                 | 1,358                    | 1,330               | 1,161                | 1,200                     | 1,763                               | 1,562                               |
| 64                        | 1,588                        | 1,461                      | 1,598                      | 1,493                | 1,638                      | 1,545                 | 663                 | 1,435                    | 1,396               | 1,237                | 1,280                     | 1,872                               | 1,634                               |
| 65                        | 1,686                        | 1,594                      | 1,650                      | 1,564                | 1,724                      | 1,633                 | 651                 | 1,513                    | 1,462               | 1,316                | 1,364                     | 1,974                               | 1,705                               |
| 66                        | 1,786                        | 1,703                      | 1,715                      | 1,637                | 1,809                      | 1,732                 | 638                 | 1,602                    | 1,527               | 1,397                | 1,448                     | 2,063                               | 1,770                               |
| 67                        | 1,888                        | 1,828                      | 1,795                      | 1,722                | 1,896                      | 1,843                 | 623                 | 1,704                    | 1,589               | 1,481                | 1,555                     | 2,142                               | 1,831                               |
| 68                        | 1,994                        | 1,953                      | 1,897                      | 1,813                | 1,982                      | 1,959                 | 608                 | 1,818                    | 1,646               | 1,567                | 1,661                     | 2,219                               | 1,890                               |
| 69                        | 2,109                        | 2,062                      | 2,013                      | 1,905                | 2,051                      | 2,061                 | 590                 | 1,931                    | 1,690               | 1,656                | 1,762                     | 2,287                               | 1,946                               |
| 70                        | 2,236                        | 2,189                      | 2,124                      | 1,992                | 2,115                      | 2,134                 | 570                 | 2,034                    | 1,745               | 1,750                | 1,892                     | 2,345                               | 1,998                               |
| 71                        | 2,363                        | 2,300                      | 2,218                      | 2,072                | 2,186                      | 2,213                 | 548                 | 2,119                    | 1,783               | 1,849                | 1,960                     | 2,385                               | 2,044                               |
| 72                        | 2,484                        | 2,353                      | 2,277                      | 2,139                | 2,242                      | 2,310                 | 525                 | 2,180                    | 1,811               | 1,954                | 2,147                     | 2,409                               | 2,081                               |
| 73                        | 2,582                        | 2,413                      | 2,304                      | 2,185                | 2,262                      | 2,395                 | 500                 | 2,208                    | 1,828               | 2,062                | 2,205                     | 2,422                               | 2,106                               |
| 74                        | 2,649                        | 2,499                      | 2,305                      | 2,211                | 2,267                      | 2,421                 | 472                 | 2,204                    | 1,833               | 2,170                | 2,286                     | 2,417                               | 2,120                               |
| 75                        | 2,682                        | 2,569                      | 2,283                      | 2,217                | 2,261                      | 2,430                 | 441                 | 2,178                    | 1,817               | 2,268                | 2,443                     | 2,387                               | 2,122                               |
| 76                        | 2,681                        | 2,639                      | 2,244                      | 2,201                | 2,219                      | 2,457                 | 409                 | 2,136                    | 1,787               | 2,350                | 2,508                     | 2,322                               | 2,109                               |
| 77                        | 2,650                        | 2,729                      | 2,192                      | 2,158                | 2,154                      | 2,455                 | 374                 | 2,081                    | 1,742               | 2,412                | 2,625                     | 2,231                               | 2,078                               |
| 78                        | 2,594                        | 2,733                      | 2,121                      | 2,091                | 2,073                      | 2,413                 | 340                 | 2,013                    | 1,683               | 2,448                | 2,539                     | 2,115                               | 2,037                               |
| 79                        | 2,516                        | 2,681                      | 2,033                      | 1,998                | 1,951                      | 2,356                 | 299                 | 1,922                    | 1,610               | 2,459                | 2,623                     | 1,986                               | 1,986                               |
| 80                        | 2,421                        | 2,655                      | 1,932                      | 1,876                | 1,809                      | 2,257                 | 261                 | 1,797                    | 1,524               | 2,447                | 2,596                     | 1,842                               | 1,934                               |
| 81                        | 2,307                        | 2,550                      | 1,819                      | 1,719                | 1,675                      | 2,116                 | 222                 | 1,635                    | 1,424               | 2,416                | 2,551                     | 1,683                               | 1,856                               |
| 82                        | 2,178                        | 2,391                      | 1,697                      | 1,556                | 1,535                      | 1,970                 | 184                 | 1,444                    | 1,313               | 2,366                | 2,435                     | 1,509                               | 1,739                               |
| 83                        | 2,036                        | 2,239                      | 1,569                      | 1,385                | 1,374                      | 1,830                 | 147                 | 1,244                    | 1,193               | 2,294                | 2,339                     | 1,328                               | 1,592                               |
| 84                        | 1,887                        | 2,028                      | 1,434                      | 1,216                | 1,203                      | 1,668                 | 114                 | 1,048                    | 1,067               | 2,192                | 2,230                     | 1,145                               | 1,445                               |
| 85                        | 1,732                        | 1,778                      | 1,291                      | 1,041                | 1,033                      | 1,472                 | 84                  | 865                      | 938                 | 2,059                | 2,007                     | 968                                 | 1,297                               |
| 86                        | 1,572                        | 1,584                      | 1,141                      | 853                  | 869                        | 1,276                 | 59                  | 699                      | 808                 | 1,897                | 1,809                     | 804                                 | 1,144                               |
| 87                        | 1,400                        | 1,419                      | 984                        | 692                  | 712                        | 1,095                 | 39                  | 552                      | 681                 | 1,711                | 1,593                     | 657                                 | 986                                 |
| 88                        | 1,219                        | 1,267                      | 832                        | 556                  | 567                        | 918                   | 24                  | 424                      | 561                 | 1,515                | 1,360                     | 528                                 | 835                                 |
| 89                        | 1,038                        | 1,080                      | 688                        | 443                  | 440                        | 740                   | 13                  | 317                      | 449                 | 1,321                | 1,141                     | 416                                 | 696                                 |
| 90                        | 863                          | .....                      | 556                        | 349                  | 334                        | 626                   | 7                   | 229                      | 350                 | 1,135                | 924                       | 316                                 | 569                                 |
| 91                        | 704                          | .....                      | 439                        | 273                  | 248                        | 507                   | 3                   | 159                      | 263                 | 958                  | 735                       | 230                                 | 457                                 |
| 92                        | 558                          | .....                      | 336                        | 211                  | 179                        | 414                   | 1                   | 106                      | 191                 | 792                  | 584                       | 161                                 | 357                                 |
| 93                        | 431                          | .....                      | 251                        | 162                  | 126                        | 306                   | 1                   | 67                       | 133                 | 636                  | 441                       | 110                                 | 272                                 |
| 94                        | 323                          | .....                      | 183                        | 123                  | 87                         | 217                   | .....               | 39                       | 89                  | 493                  | 317                       | 77                                  | 202                                 |
| 95                        | 234                          | .....                      | 130                        | 92                   | 58                         | 137                   | .....               | 22                       | 55                  | 368                  | 235                       | 52                                  | 147                                 |
| 96                        | 165                          | .....                      | 91                         | 69                   | 38                         | 71                    | .....               | 11                       | 33                  | 267                  | 162                       | 33                                  | 102                                 |
| 97                        | 113                          | .....                      | 61                         | 50                   | 24                         | 20                    | .....               | 5                        | 18                  | 188                  | 100                       | 21                                  | 71                                  |
| 98                        | 72                           | .....                      | 41                         | 37                   | 15                         | 6                     | .....               | 3                        | 9                   | 128                  | 61                        | 12                                  | 47                                  |
| 99                        | 47                           | .....                      | 27                         | 27                   | 9                          | 2                     | .....               | 1                        | 4                   | 86                   | 40                        | 6                                   | 32                                  |
| 100                       | 28                           | .....                      | 18                         | 19                   | .....                      | .....                 | .....               | .....                    | 2                   | 57                   | 24                        | 3                                   | 20                                  |

\* These derived values agree with those for  $l_x$  in Table 78, p. 210. See footnote to that table.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

## UNITED STATES LIFE TABLES.

TABLE 81

## FOREIGN COUNTRIES. MALES. COMPLETE

TAKEN FROM THE PUBLISHED LIFE TABLES OF VARIOUS COUNTRIES, BASED ON THEIR OFFICIAL  
MAY BE MADE

| AGE.                                                  | AUSTRALIA:<br>1901-1910 | DENMARK:<br>1906-1910 | ENGLAND:<br>1901-1910 | FRANCE:<br>1898-1903 | GERMANY:<br>1901-1910 | HOLLAND:<br>1900-1909 | INDIA:<br>1901-1910 | ITALY:<br>1901-1910 | JAPAN:<br>1898-1903 | NORWAY:<br>1901-1910 | SWEDEN:<br>1901-1910 | SWITZER-<br>LAND:<br>1901-1910 | UNITED<br>STATES:<br>1901-1910 |
|-------------------------------------------------------|-------------------------|-----------------------|-----------------------|----------------------|-----------------------|-----------------------|---------------------|---------------------|---------------------|----------------------|----------------------|--------------------------------|--------------------------------|
| 1                                                     | 2                       | 3                     | 4                     | 5                    | 6                     | 7                     | 8                   | 9                   | 10                  | 11                   | 12                   | 13                             | 14                             |
| MALES. COMPLETE EXPECTATION OF LIFE IN YEARS, $e_x$ . |                         |                       |                       |                      |                       |                       |                     |                     |                     |                      |                      |                                |                                |
| 0                                                     | 55.20                   | 54.9                  | 48.53                 | 45.74                | 44.82                 | 51.0                  | 22.59               | 44.24               | 43.97               | 54.84                | 54.53                | 49.25                          | 49.32                          |
| 1                                                     | 59.96                   | 61.5                  | 55.68                 | 53.59                | 55.12                 | 58.2                  | 30.72               | 52.05               | 51.11               | 58.66                | 59.06                | 56.08                          | 55.48                          |
| 2                                                     | 60.04                   | 61.5                  | 57.00                 | 54.43                | 56.39                 | 59.3                  | 32.76               | 54.95               | 52.04               | 58.75                | 59.43                | 56.32                          | 50.19                          |
| 3                                                     | 59.45                   | 60.9                  | 56.02                 | 54.47                | 56.24                 | 59.3                  | 34.03               | 55.68               | 52.41               | 58.25                | 59.08                | 55.88                          | 55.97                          |
| 4                                                     | 58.71                   | 60.2                  | 56.49                 | 54.11                | 55.77                 | 58.9                  | 34.73               | 55.66               | 52.31               | 57.62                | 58.54                | 55.24                          | 55.46                          |
| 5                                                     | 57.91                   | 59.4                  | 55.90                 | 53.57                | 55.15                 | 58.3                  | 35.01               | 55.32               | 51.90               | 56.92                | 57.90                | 54.52                          | 54.82                          |
| 6                                                     | 57.08                   | 58.6                  | 55.21                 | 52.91                | 54.44                 | 57.6                  | 34.99               | 54.74               | 51.31               | 56.17                | 57.19                | 53.75                          | 54.11                          |
| 7                                                     | 56.21                   | 57.7                  | 54.42                 | 52.17                | 53.67                 | 56.8                  | 34.76               | 54.01               | 50.60               | 55.38                | 56.43                | 52.92                          | 53.34                          |
| 8                                                     | 55.33                   | 56.8                  | 53.59                 | 51.39                | 52.86                 | 56.0                  | 34.38               | 53.19               | 49.84               | 54.58                | 55.66                | 52.69                          | 52.54                          |
| 9                                                     | 54.43                   | 55.9                  | 52.71                 | 50.58                | 52.02                 | 55.1                  | 33.90               | 52.32               | 49.05               | 53.76                | 54.86                | 51.22                          | 51.71                          |
| 10                                                    | 53.53                   | 55.1                  | 51.81                 | 49.75                | 51.16                 | 54.3                  | 33.36               | 51.44               | 48.23               | 52.92                | 54.03                | 50.34                          | 50.86                          |
| 11                                                    | 52.63                   | 54.2                  | 50.91                 | 48.89                | 50.28                 | 53.4                  | 32.77               | 50.55               | 47.38               | 52.08                | 53.21                | 49.45                          | 49.99                          |
| 12                                                    | 51.72                   | 53.2                  | 50.00                 | 48.03                | 49.40                 | 52.5                  | 32.16               | 49.68               | 46.53               | 51.23                | 52.36                | 48.56                          | 49.11                          |
| 13                                                    | 50.82                   | 52.3                  | 49.09                 | 47.16                | 48.50                 | 51.6                  | 31.54               | 48.83               | 45.68               | 50.37                | 51.51                | 47.65                          | 48.24                          |
| 14                                                    | 49.92                   | 51.4                  | 48.20                 | 46.31                | 47.60                 | 50.7                  | 30.93               | 47.99               | 44.84               | 49.52                | 50.65                | 46.75                          | 47.37                          |
| 15                                                    | 49.03                   | 50.5                  | 47.31                 | 45.45                | 46.71                 | 49.8                  | 30.32               | 47.17               | 44.02               | 48.69                | 49.79                | 45.86                          | 46.50                          |
| 16                                                    | 48.15                   | 49.7                  | 46.43                 | 44.62                | 45.84                 | 48.9                  | 29.72               | 46.36               | 43.23               | 47.88                | 48.95                | 44.98                          | 45.65                          |
| 17                                                    | 47.28                   | 48.8                  | 45.57                 | 43.81                | 44.99                 | 48.1                  | 29.13               | 45.57               | 42.47               | 47.13                | 48.14                | 44.13                          | 44.81                          |
| 18                                                    | 46.43                   | 48.0                  | 44.71                 | 43.03                | 44.16                 | 47.3                  | 28.56               | 44.78               | 41.74               | 46.43                | 47.36                | 43.30                          | 43.99                          |
| 19                                                    | 45.58                   | 47.1                  | 43.85                 | 42.27                | 43.35                 | 46.5                  | 28.00               | 44.02               | 41.03               | 45.77                | 46.61                | 42.49                          | 43.18                          |
| 20                                                    | 44.74                   | 46.3                  | 43.01                 | 41.53                | 42.56                 | 45.7                  | 27.46               | 43.27               | 40.35               | 45.16                | 45.88                | 41.70                          | 42.39                          |
| 21                                                    | 43.90                   | 45.5                  | 42.17                 | 40.82                | 41.77                 | 44.9                  | 26.92               | 42.53               | 39.69               | 44.57                | 45.18                | 40.91                          | 41.62                          |
| 22                                                    | 43.07                   | 44.6                  | 41.34                 | 40.12                | 40.98                 | 44.1                  | 26.39               | 41.81               | 39.03               | 43.98                | 44.47                | 40.13                          | 40.87                          |
| 23                                                    | 42.25                   | 43.8                  | 40.51                 | 39.42                | 40.19                 | 43.4                  | 25.87               | 41.10               | 38.36               | 43.39                | 43.75                | 39.34                          | 40.11                          |
| 24                                                    | 41.42                   | 43.0                  | 39.68                 | 38.73                | 39.39                 | 42.6                  | 25.36               | 40.38               | 37.70               | 42.80                | 43.04                | 38.55                          | 39.35                          |
| 25                                                    | 40.60                   | 42.2                  | 38.86                 | 38.03                | 38.59                 | 41.8                  | 24.86               | 39.66               | 37.02               | 42.18                | 42.31                | 37.76                          | 38.59                          |
| 26                                                    | 39.78                   | 41.4                  | 38.03                 | 37.30                | 37.78                 | 41.0                  | 24.37               | 38.93               | 36.33               | 41.55                | 41.57                | 36.97                          | 37.83                          |
| 27                                                    | 38.96                   | 40.5                  | 37.21                 | 36.57                | 36.98                 | 40.2                  | 23.88               | 38.19               | 35.62               | 40.90                | 40.83                | 36.18                          | 37.07                          |
| 28                                                    | 38.15                   | 39.7                  | 36.39                 | 35.83                | 36.17                 | 39.4                  | 23.39               | 37.45               | 34.90               | 40.24                | 40.08                | 35.39                          | 36.31                          |
| 29                                                    | 37.33                   | 38.9                  | 35.57                 | 35.10                | 35.36                 | 38.6                  | 22.92               | 36.69               | 34.18               | 39.56                | 39.33                | 34.60                          | 35.55                          |
| 30                                                    | 36.52                   | 38.0                  | 34.76                 | 34.35                | 34.55                 | 37.8                  | 22.44               | 35.94               | 33.44               | 38.86                | 38.57                | 33.80                          | 34.80                          |
| 31                                                    | 35.71                   | 37.2                  | 33.95                 | 33.63                | 33.74                 | 36.9                  | 21.97               | 35.17               | 32.71               | 38.15                | 37.80                | 33.01                          | 34.05                          |
| 32                                                    | 34.90                   | 36.4                  | 33.15                 | 32.89                | 32.93                 | 36.1                  | 21.51               | 34.41               | 31.96               | 37.43                | 37.03                | 32.22                          | 33.31                          |
| 33                                                    | 34.09                   | 35.5                  | 32.36                 | 32.16                | 32.12                 | 35.3                  | 21.05               | 33.64               | 31.22               | 36.71                | 36.25                | 31.43                          | 32.58                          |
| 34                                                    | 33.29                   | 34.7                  | 31.57                 | 31.44                | 31.32                 | 34.4                  | 20.60               | 32.87               | 30.48               | 35.97                | 35.46                | 30.65                          | 31.85                          |
| 35                                                    | 32.49                   | 33.9                  | 30.79                 | 30.71                | 30.53                 | 33.6                  | 20.16               | 32.09               | 29.73               | 35.24                | 34.68                | 29.87                          | 31.12                          |
| 36                                                    | 31.69                   | 33.1                  | 30.02                 | 30.00                | 29.74                 | 32.8                  | 19.72               | 31.32               | 28.99               | 34.49                | 33.90                | 29.09                          | 30.40                          |
| 37                                                    | 30.90                   | 32.2                  | 29.25                 | 29.28                | 28.95                 | 32.0                  | 19.29               | 30.54               | 28.24               | 33.75                | 33.11                | 28.32                          | 29.69                          |
| 38                                                    | 30.11                   | 31.4                  | 28.48                 | 28.57                | 28.18                 | 31.2                  | 18.86               | 29.77               | 27.50               | 33.00                | 32.33                | 27.55                          | 28.98                          |
| 39                                                    | 29.33                   | 30.6                  | 27.72                 | 27.84                | 27.41                 | 30.4                  | 18.44               | 29.00               | 26.77               | 32.24                | 31.54                | 26.79                          | 28.26                          |
| 40                                                    | 28.56                   | 29.7                  | 26.96                 | 27.15                | 26.64                 | 29.5                  | 18.02               | 28.23               | 26.03               | 31.49                | 30.77                | 26.03                          | 27.55                          |
| 41                                                    | 27.79                   | 29.0                  | 26.21                 | 26.44                | 25.89                 | 28.7                  | 17.61               | 27.47               | 25.30               | 30.73                | 30.00                | 25.29                          | 26.83                          |
| 42                                                    | 27.03                   | 28.2                  | 25.47                 | 25.74                | 25.14                 | 27.9                  | 17.19               | 26.71               | 24.57               | 29.97                | 29.23                | 24.55                          | 26.12                          |
| 43                                                    | 26.27                   | 27.4                  | 24.72                 | 25.04                | 24.40                 | 27.2                  | 16.78               | 25.95               | 23.85               | 29.22                | 28.46                | 23.81                          | 25.41                          |
| 44                                                    | 25.52                   | 26.7                  | 23.99                 | 24.34                | 23.66                 | 26.4                  | 16.38               | 25.20               | 23.13               | 28.46                | 27.70                | 23.09                          | 24.70                          |
| 45                                                    | 24.78                   | 25.9                  | 23.27                 | 23.64                | 22.94                 | 25.6                  | 15.97               | 24.45               | 22.42               | 27.70                | 26.93                | 22.37                          | 24.01                          |
| 46                                                    | 24.04                   | 25.1                  | 22.55                 | 22.96                | 22.22                 | 24.8                  | 15.57               | 23.70               | 21.72               | 26.95                | 26.18                | 21.66                          | 23.32                          |
| 47                                                    | 23.32                   | 24.4                  | 21.84                 | 22.28                | 21.51                 | 24.0                  | 15.17               | 22.95               | 21.02               | 26.19                | 25.42                | 20.96                          | 22.64                          |
| 48                                                    | 22.59                   | 23.6                  | 21.14                 | 21.60                | 20.81                 | 23.3                  | 14.77               | 22.20               | 20.33               | 25.44                | 24.67                | 20.26                          | 21.96                          |
| 49                                                    | 21.88                   | 22.9                  | 20.44                 | 20.93                | 20.11                 | 22.5                  | 14.37               | 21.47               | 19.64               | 24.70                | 23.91                | 19.57                          | 21.27                          |

\* These values were copied to the nearest second decimal. Only the first decimal was shown in the tables for Denmark and Holland.

† See first footnote on p. 203.

‡ Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.



## EXPECTATION OF LIFE IN YEARS.

TABLE 81

POPULATION AND DEATH STATISTICS, AND EXHIBITED HERE IN TABULAR FORM SO THAT A COMPARISON AT EACH AGE.

| AGE.                                           | AUSTRALIA:<br>1901-1910<br>* | DENMARK:<br>1906-1910<br>* | ENGLAND:<br>1901-1910 | FRANCE:<br>1898-1903 | GERMANY:<br>1901-1910 | HOLLAND:<br>1900-1909<br>* | INDIA:<br>1901-1910 | ITALY:<br>1901-1910 | JAPAN:<br>1898-1903 | NORWAY:<br>1901-1910<br>† | SWEDEN:<br>1901-1910 | SWITZER-<br>LAND:<br>1901-1910 | UNITED<br>STATES:<br>1901-1910<br>† |
|------------------------------------------------|------------------------------|----------------------------|-----------------------|----------------------|-----------------------|----------------------------|---------------------|---------------------|---------------------|---------------------------|----------------------|--------------------------------|-------------------------------------|
| 1                                              | 2                            | 3                          | 4                     | 5                    | 6                     | 7                          | 8                   | 9                   | 10                  | 11                        | 12                   | 13                             | 14                                  |
| COMPLETE EXPECTATION OF LIFE IN YEARS, $e_x$ . |                              |                            |                       |                      |                       |                            |                     |                     |                     |                           |                      |                                |                                     |
| MALES.                                         |                              |                            |                       |                      |                       |                            |                     |                     |                     |                           |                      |                                |                                     |
| 50                                             | 21.16                        | 22.1                       | 19.76                 | 20.26                | 19.43                 | 21.8                       | 13.97               | 20.73               | 18.97               | 23.96                     | 23.17                | 18.90                          | 20.59                               |
| 51                                             | 20.46                        | 21.4                       | 19.08                 | 19.59                | 18.76                 | 21.0                       | 13.58               | 20.01               | 18.30               | 23.22                     | 22.43                | 18.73                          | 19.90                               |
| 52                                             | 19.75                        | 20.7                       | 18.42                 | 18.93                | 18.09                 | 20.3                       | 13.18               | 19.29               | 17.65               | 22.49                     | 21.70                | 17.58                          | 19.21                               |
| 53                                             | 19.05                        | 19.9                       | 17.76                 | 18.27                | 17.44                 | 19.5                       | 12.78               | 18.58               | 17.00               | 21.76                     | 20.97                | 16.93                          | 18.53                               |
| 54                                             | 18.36                        | 19.2                       | 17.12                 | 17.61                | 16.80                 | 18.8                       | 12.38               | 17.88               | 16.36               | 21.04                     | 20.25                | 16.30                          | 17.87                               |
| 55                                             | 17.67                        | 18.5                       | 16.48                 | 16.95                | 16.16                 | 18.1                       | 11.99               | 17.18               | 15.73               | 20.32                     | 19.54                | 15.68                          | 17.21                               |
| 56                                             | 16.99                        | 17.8                       | 15.80                 | 16.30                | 15.54                 | 17.4                       | 11.59               | 16.48               | 15.11               | 19.60                     | 18.84                | 15.07                          | 16.58                               |
| 57                                             | 16.31                        | 17.2                       | 15.25                 | 15.66                | 14.93                 | 16.7                       | 11.19               | 15.79               | 14.51               | 18.89                     | 18.13                | 14.46                          | 15.96                               |
| 58                                             | 15.65                        | 16.5                       | 14.65                 | 15.03                | 14.32                 | 16.1                       | 10.79               | 15.10               | 13.91               | 18.19                     | 17.43                | 13.87                          | 15.35                               |
| 59                                             | 14.99                        | 15.9                       | 14.07                 | 14.42                | 13.72                 | 15.4                       | 10.40               | 14.43               | 13.33               | 17.49                     | 16.74                | 13.29                          | 14.76                               |
| 60                                             | 14.35                        | 15.2                       | 13.49                 | 13.81                | 13.14                 | 14.7                       | 10.00               | 13.78               | 12.76               | 16.79                     | 16.06                | 12.73                          | 14.17                               |
| 61                                             | 13.72                        | 14.6                       | 12.93                 | 13.22                | 12.56                 | 14.1                       | 9.61                | 13.14               | 12.21               | 16.11                     | 15.38                | 12.18                          | 13.59                               |
| 62                                             | 13.09                        | 13.9                       | 12.38                 | 12.64                | 12.00                 | 13.4                       | 9.21                | 12.52               | 11.67               | 15.44                     | 14.73                | 11.64                          | 13.02                               |
| 63                                             | 12.49                        | 13.3                       | 11.84                 | 12.07                | 11.46                 | 12.8                       | 8.82                | 11.92               | 11.14               | 14.78                     | 14.07                | 11.11                          | 12.47                               |
| 64                                             | 11.89                        | 12.7                       | 11.31                 | 11.51                | 10.92                 | 12.2                       | 8.43                | 11.32               | 10.63               | 14.14                     | 13.44                | 10.59                          | 11.93                               |
| 65                                             | 11.31                        | 12.1                       | 10.80                 | 10.96                | 10.40                 | 11.6                       | 8.04                | 10.74               | 10.14               | 13.51                     | 12.81                | 10.09                          | 11.40                               |
| 66                                             | 10.74                        | 11.5                       | 10.29                 | 10.42                | 9.89                  | 11.1                       | 7.66                | 10.16               | 9.66                | 12.90                     | 12.19                | 9.60                           | 10.89                               |
| 67                                             | 10.19                        | 10.9                       | 9.79                  | 9.90                 | 9.39                  | 10.5                       | 7.28                | 9.60                | 9.19                | 12.30                     | 11.58                | 9.12                           | 10.39                               |
| 68                                             | 9.66                         | 10.4                       | 9.31                  | 9.39                 | 8.91                  | 10.0                       | 6.90                | 9.05                | 8.74                | 11.71                     | 11.00                | 8.66                           | 9.90                                |
| 69                                             | 9.16                         | 9.8                        | 8.84                  | 8.89                 | 8.45                  | 9.4                        | 6.53                | 8.53                | 8.31                | 11.14                     | 10.42                | 8.21                           | 9.42                                |
| 70                                             | 8.67                         | 9.3                        | 8.39                  | 8.42                 | 7.99                  | 8.9                        | 6.17                | 8.02                | 7.89                | 10.57                     | 9.85                 | 7.78                           | 8.96                                |
| 71                                             | 8.21                         | 8.8                        | 7.95                  | 7.96                 | 7.55                  | 8.5                        | 5.81                | 7.54                | 7.48                | 10.02                     | 9.31                 | 7.36                           | 8.49                                |
| 72                                             | 7.77                         | 8.3                        | 7.54                  | 7.52                 | 7.13                  | 8.0                        | 5.46                | 7.08                | 7.09                | 9.49                      | 8.78                 | 6.96                           | 8.04                                |
| 73                                             | 7.35                         | 7.8                        | 7.14                  | 7.11                 | 6.72                  | 7.5                        | 5.12                | 6.64                | 6.71                | 8.97                      | 8.26                 | 6.56                           | 7.61                                |
| 74                                             | 6.95                         | 7.4                        | 6.76                  | 6.71                 | 6.34                  | 7.1                        | 4.79                | 6.22                | 6.35                | 8.47                      | 7.76                 | 6.18                           | 7.19                                |
| 75                                             | 6.58                         | 6.9                        | 6.41                  | 6.34                 | 5.97                  | 6.7                        | 4.47                | 5.82                | 6.00                | 7.98                      | 7.29                 | 5.81                           | 6.79                                |
| 76                                             | 6.23                         | 6.5                        | 6.07                  | 5.99                 | 5.62                  | 6.3                        | 4.16                | 5.43                | 5.66                | 7.52                      | 6.84                 | 5.46                           | 6.42                                |
| 77                                             | 5.89                         | 6.1                        | 5.74                  | 5.67                 | 5.29                  | 5.9                        | 3.86                | 5.05                | 5.33                | 7.08                      | 6.40                 | 5.13                           | 6.06                                |
| 78                                             | 5.57                         | 5.7                        | 5.44                  | 5.37                 | 4.97                  | 5.6                        | 3.57                | 4.69                | 5.02                | 6.65                      | 5.98                 | 4.82                           | 5.72                                |
| 79                                             | 5.26                         | 5.4                        | 5.14                  | 5.11                 | 4.67                  | 5.2                        | 3.30                | 4.36                | 4.72                | 6.25                      | 5.59                 | 4.53                           | 5.39                                |
| 80                                             | 4.96                         | 5.1                        | 4.86                  | 4.87                 | 4.38                  | 4.9                        | 3.04                | 4.06                | 4.44                | 5.86                      | 5.22                 | 4.27                           | 5.07                                |
| 81                                             | 4.68                         | 4.8                        | 4.58                  | 4.64                 | 4.11                  | 4.6                        | 2.79                | 3.79                | 4.17                | 5.50                      | 4.87                 | 4.03                           | 4.77                                |
| 82                                             | 4.40                         | 4.3                        | 4.30                  | 4.44                 | 3.85                  | 4.3                        | 2.56                | 3.54                | 3.90                | 5.16                      | 4.53                 | 3.80                           | 4.50                                |
| 83                                             | 4.14                         | 4.1                        | 4.03                  | 4.24                 | 3.61                  | 4.0                        | 2.34                | 3.31                | 3.66                | 4.84                      | 4.22                 | 3.58                           | 4.25                                |
| 84                                             | 3.89                         | 3.9                        | 3.78                  | 4.06                 | 3.39                  | 3.7                        | 2.13                | 3.10                | 3.42                | 4.54                      | 3.92                 | 3.37                           | 4.01                                |
| 85                                             | 3.65                         | 3.7                        | 3.53                  | 3.91                 | 3.18                  | 3.5                        | 1.94                | 2.90                | 3.19                | 4.26                      | 3.66                 | 3.18                           | 3.79                                |
| 86                                             | 3.43                         | 3.4                        | 3.31                  | 3.78                 | 2.99                  | 3.3                        | 1.77                | 2.71                | 2.98                | 4.00                      | 3.41                 | 2.98                           | 3.59                                |
| 87                                             | 3.22                         | 3.0                        | 3.10                  | 3.60                 | 2.81                  | 3.0                        | 1.62                | 2.52                | 2.77                | 3.76                      | 3.19                 | 2.81                           | 3.40                                |
| 88                                             | 3.01                         | 2.8                        | 2.90                  | 3.54                 | 2.64                  | 2.8                        | 1.45                | 2.34                | 2.58                | 3.53                      | 2.97                 | 2.65                           | 3.22                                |
| 89                                             | 2.82                         | 2.7                        | 2.72                  | 3.41                 | 2.49                  | 2.5                        | 1.33                | 2.17                | 2.39                | 3.31                      | 2.77                 | 2.51                           | 3.06                                |
| 90                                             | 2.64                         | 2.6                        | 2.56                  | 3.29                 | 2.35                  | 2.2                        | 1.23                | 2.01                | 2.23                | 3.11                      | 2.60                 | 2.38                           | 2.90                                |
| 91                                             | 2.47                         | .....                      | 2.43                  | 3.18                 | 2.22                  | 1.9                        | 1.10                | 1.85                | 2.05                | 2.91                      | 2.45                 | 2.25                           | 2.75                                |
| 92                                             | 2.31                         | .....                      | 2.32                  | 3.05                 | 2.10                  | 1.6                        | 1.00                | 1.70                | 1.90                | 2.73                      | 2.30                 | 2.12                           | 2.60                                |
| 93                                             | 2.16                         | .....                      | 2.22                  | 2.92                 | 1.99                  | 1.4                        | .50                 | 1.56                | 1.75                | 2.55                      | 2.16                 | 1.96                           | 2.47                                |
| 94                                             | 2.02                         | .....                      | 2.15                  | 2.80                 | 1.89                  | 1.2                        | .....               | 1.43                | 1.63                | 2.39                      | 2.02                 | 1.80                           | 2.34                                |
| 95                                             | 1.88                         | .....                      | 2.07                  | 2.66                 | 1.80                  | 1.0                        | .....               | 1.29                | 1.48                | 2.24                      | 1.89                 | 1.63                           | 2.21                                |
| 96                                             | 1.76                         | .....                      | 2.00                  | 2.54                 | 1.73                  | 0.9                        | .....               | 1.17                | 1.37                | 2.09                      | 1.80                 | 1.48                           | 2.09                                |
| 97                                             | 1.63                         | .....                      | 1.91                  | 2.41                 | 1.65                  | 0.7                        | .....               | 1.00                | 1.23                | 1.95                      | 1.75                 | 1.33                           | 1.98                                |
| 98                                             | 1.50                         | .....                      | 1.80                  | 2.25                 | 1.59                  | 0.5                        | .....               | .83                 | 1.07                | 1.81                      | 1.65                 | 1.23                           | 1.87                                |
| 99                                             | 1.35                         | .....                      | 1.67                  | 2.11                 | 1.54                  | .....                      | .....               | .50                 | .83                 | 1.66                      | 1.51                 | 1.10                           | 1.77                                |
| 100                                            | 1.18                         | .....                      | 1.53                  | 1.93                 | 1.50                  | .....                      | .....               | .....               | .50                 | 1.50                      | 1.45                 | 1.00                           | 1.66                                |

\* These values were copied to the nearest second decimal. Only the first decimal was shown in tables for Denmark and Holland.

† See first footnote on p. 203.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

## UNITED STATES LIFE TABLES.

TABLE 82

FOREIGN COUNTRIES. FEMALES. COMPLETE

TAKEN FROM THE PUBLISHED LIFE TABLES OF VARIOUS COUNTRIES, BASED ON THEIR OFFICIAL  
MAY BE MADE

| AGE.                                                    | AUSTRALIA:<br>1901-1910<br>* | DENMARK:<br>1906-1910<br>* | ENGLAND:<br>1901-1910 | FRANCE:<br>1898-1903 | GERMANY:<br>1901-1910 | HOLLAND:<br>1900-1909<br>* | INDIA:<br>1901-1910 | ITALY:<br>1901-1910 | JAPAN:<br>1898-1903 | NORWAY:<br>1901-1910<br>† | SWEDEN:<br>1901-1910 | SWITZER-<br>LAND:<br>1901-1910 | UNITED<br>STATES:<br>1901-1910<br>† |
|---------------------------------------------------------|------------------------------|----------------------------|-----------------------|----------------------|-----------------------|----------------------------|---------------------|---------------------|---------------------|---------------------------|----------------------|--------------------------------|-------------------------------------|
| 1                                                       | 2                            | 3                          | 4                     | 5                    | 6                     | 7                          | 8                   | 9                   | 10                  | 11                        | 12                   | 13                             | 14                                  |
| FEMALES. COMPLETE EXPECTATION OF LIFE IN YEARS, $e_x$ . |                              |                            |                       |                      |                       |                            |                     |                     |                     |                           |                      |                                |                                     |
| 0                                                       | 58.84                        | 57.9                       | 52.38                 | 49.13                | 48.33                 | 53.4                       | 23.31               | 44.83               | 44.85               | 57.72                     | 56.98                | 52.15                          | 52.54                               |
| 1                                                       | 62.89                        | 63.2                       | 58.31                 | 55.84                | 57.20                 | 59.5                       | 31.49               | 51.78               | 51.17               | 60.81                     | 60.64                | 57.71                          | 57.70                               |
| 2                                                       | 62.95                        | 63.2                       | 59.53                 | 56.63                | 58.47                 | 60.6                       | 33.42               | 54.72               | 52.06               | 60.84                     | 60.95                | 57.97                          | 58.32                               |
| 3                                                       | 62.34                        | 62.6                       | 59.49                 | 56.63                | 58.33                 | 60.5                       | 34.58               | 55.51               | 52.44               | 60.39                     | 60.53                | 57.52                          | 58.05                               |
| 4                                                       | 61.60                        | 61.9                       | 59.09                 | 56.28                | 57.87                 | 60.0                       | 35.19               | 55.51               | 52.36               | 59.76                     | 60.03                | 56.88                          | 57.53                               |
| 5                                                       | 60.80                        | 61.1                       | 58.53                 | 55.75                | 57.27                 | 59.4                       | 35.40               | 55.20               | 51.97               | 59.06                     | 59.40                | 56.15                          | 56.89                               |
| 6                                                       | 59.95                        | 60.2                       | 57.85                 | 55.12                | 56.57                 | 58.7                       | 35.34               | 54.07               | 51.39               | 58.31                     | 58.71                | 55.38                          | 56.17                               |
| 7                                                       | 59.08                        | 59.4                       | 57.09                 | 54.41                | 55.82                 | 57.9                       | 35.10               | 53.99               | 50.09               | 57.53                     | 57.96                | 54.55                          | 55.40                               |
| 8                                                       | 58.19                        | 58.5                       | 56.27                 | 53.65                | 55.03                 | 57.1                       | 34.73               | 53.21               | 49.94               | 56.73                     | 57.18                | 53.71                          | 54.59                               |
| 9                                                       | 57.29                        | 57.6                       | 55.41                 | 52.85                | 54.20                 | 56.2                       | 34.26               | 52.38               | 49.15               | 55.91                     | 56.39                | 52.88                          | 53.75                               |
| 10                                                      | 56.39                        | 56.7                       | 54.53                 | 52.03                | 53.35                 | 55.4                       | 33.74               | 51.53               | 48.34               | 55.09                     | 55.58                | 51.93                          | 52.69                               |
| 11                                                      | 55.47                        | 55.9                       | 53.64                 | 51.20                | 52.49                 | 54.5                       | 33.17               | 50.68               | 47.52               | 54.27                     | 54.75                | 51.10                          | 52.01                               |
| 12                                                      | 54.56                        | 55.0                       | 52.74                 | 50.36                | 51.61                 | 53.6                       | 32.58               | 49.84               | 46.70               | 53.44                     | 53.93                | 50.21                          | 51.13                               |
| 13                                                      | 53.66                        | 54.1                       | 51.85                 | 49.53                | 50.74                 | 52.7                       | 31.98               | 49.02               | 45.90               | 52.63                     | 53.10                | 49.33                          | 50.25                               |
| 14                                                      | 52.76                        | 53.2                       | 50.96                 | 48.71                | 49.87                 | 51.9                       | 31.38               | 48.22               | 45.12               | 51.83                     | 52.29                | 48.47                          | 49.38                               |
| 15                                                      | 51.86                        | 52.4                       | 50.08                 | 47.90                | 49.00                 | 51.0                       | 30.78               | 47.43               | 44.36               | 51.05                     | 51.48                | 47.62                          | 48.51                               |
| 16                                                      | 50.97                        | 51.5                       | 49.21                 | 47.11                | 48.15                 | 50.2                       | 30.19               | 46.66               | 43.65               | 50.28                     | 50.70                | 46.80                          | 47.66                               |
| 17                                                      | 50.10                        | 50.7                       | 48.35                 | 46.33                | 47.31                 | 49.3                       | 29.61               | 45.90               | 42.96               | 49.53                     | 49.93                | 46.01                          | 46.82                               |
| 18                                                      | 49.23                        | 49.8                       | 47.49                 | 45.55                | 46.48                 | 48.5                       | 29.05               | 45.16               | 42.31               | 48.79                     | 49.17                | 45.23                          | 46.00                               |
| 19                                                      | 48.37                        | 49.0                       | 46.63                 | 44.83                | 45.65                 | 47.7                       | 28.50               | 44.42               | 41.69               | 48.07                     | 48.42                | 44.45                          | 45.19                               |
| 20                                                      | 47.52                        | 48.2                       | 45.77                 | 44.02                | 44.84                 | 46.9                       | 27.96               | 43.69               | 41.06               | 47.35                     | 47.66                | 43.69                          | 44.39                               |
| 21                                                      | 46.68                        | 47.4                       | 44.92                 | 43.37                | 44.02                 | 46.0                       | 27.44               | 42.98               | 40.46               | 46.64                     | 46.91                | 42.92                          | 43.61                               |
| 22                                                      | 45.84                        | 46.6                       | 44.07                 | 42.64                | 43.22                 | 45.2                       | 26.92               | 42.26               | 39.85               | 45.93                     | 46.17                | 42.16                          | 42.83                               |
| 23                                                      | 45.01                        | 45.8                       | 43.22                 | 41.92                | 42.42                 | 44.4                       | 26.41               | 41.56               | 39.25               | 45.23                     | 45.43                | 41.40                          | 42.06                               |
| 24                                                      | 44.18                        | 44.9                       | 42.38                 | 41.22                | 41.63                 | 43.6                       | 25.90               | 40.85               | 38.64               | 44.52                     | 44.68                | 40.64                          | 41.30                               |
| 25                                                      | 43.36                        | 44.1                       | 41.54                 | 40.51                | 40.84                 | 42.8                       | 25.40               | 40.14               | 38.02               | 43.81                     | 43.93                | 39.89                          | 40.53                               |
| 26                                                      | 42.55                        | 43.3                       | 40.69                 | 39.81                | 40.06                 | 42.0                       | 24.91               | 39.44               | 37.40               | 43.10                     | 43.20                | 39.13                          | 39.77                               |
| 27                                                      | 41.73                        | 42.5                       | 39.86                 | 39.09                | 39.28                 | 41.2                       | 24.43               | 38.73               | 36.77               | 42.39                     | 42.46                | 38.37                          | 39.01                               |
| 28                                                      | 40.93                        | 41.8                       | 39.02                 | 38.37                | 38.50                 | 40.4                       | 23.94               | 38.01               | 36.13               | 41.68                     | 41.71                | 37.62                          | 38.25                               |
| 29                                                      | 40.13                        | 40.9                       | 38.19                 | 37.66                | 37.72                 | 39.6                       | 23.47               | 37.30               | 35.49               | 40.96                     | 40.95                | 36.86                          | 37.50                               |
| 30                                                      | 39.33                        | 40.1                       | 37.36                 | 36.93                | 36.94                 | 38.8                       | 22.99               | 36.58               | 34.84               | 40.24                     | 40.20                | 36.10                          | 36.75                               |
| 31                                                      | 38.53                        | 39.3                       | 36.51                 | 36.21                | 36.16                 | 38.0                       | 22.53               | 35.85               | 34.18               | 39.51                     | 39.44                | 35.33                          | 36.00                               |
| 32                                                      | 37.74                        | 38.5                       | 35.73                 | 35.49                | 35.38                 | 37.2                       | 22.06               | 35.13               | 33.52               | 38.79                     | 38.68                | 34.57                          | 35.25                               |
| 33                                                      | 36.94                        | 37.7                       | 34.92                 | 34.73                | 34.60                 | 36.4                       | 21.60               | 34.39               | 32.86               | 38.06                     | 37.91                | 33.81                          | 34.51                               |
| 34                                                      | 36.16                        | 36.9                       | 34.11                 | 34.02                | 33.82                 | 35.6                       | 21.14               | 33.66               | 32.20               | 37.34                     | 37.14                | 33.04                          | 33.76                               |
| 35                                                      | 35.37                        | 36.1                       | 33.31                 | 33.29                | 33.04                 | 34.8                       | 20.69               | 32.92               | 31.54               | 36.61                     | 36.38                | 32.27                          | 33.01                               |
| 36                                                      | 34.59                        | 35.3                       | 32.52                 | 32.56                | 32.27                 | 34.0                       | 20.24               | 32.18               | 30.87               | 35.88                     | 35.61                | 31.50                          | 32.27                               |
| 37                                                      | 33.81                        | 34.5                       | 31.72                 | 31.82                | 31.49                 | 33.2                       | 19.80               | 31.43               | 30.21               | 35.15                     | 34.84                | 30.73                          | 31.52                               |
| 38                                                      | 33.03                        | 33.7                       | 30.94                 | 31.08                | 30.72                 | 32.4                       | 19.36               | 30.68               | 29.54               | 34.41                     | 34.07                | 29.96                          | 30.78                               |
| 39                                                      | 32.25                        | 32.9                       | 30.15                 | 30.35                | 29.94                 | 31.6                       | 18.92               | 29.93               | 28.87               | 33.67                     | 33.31                | 29.20                          | 30.03                               |
| 40                                                      | 31.47                        | 32.0                       | 29.37                 | 29.60                | 29.18                 | 30.8                       | 18.49               | 29.18               | 28.19               | 32.93                     | 32.53                | 28.43                          | 29.28                               |
| 41                                                      | 30.70                        | 31.2                       | 28.59                 | 28.85                | 28.39                 | 30.1                       | 18.00               | 28.43               | 27.51               | 32.18                     | 31.76                | 27.66                          | 28.52                               |
| 42                                                      | 29.92                        | 30.4                       | 27.82                 | 28.11                | 27.61                 | 29.3                       | 17.64               | 27.68               | 26.82               | 31.43                     | 30.98                | 26.89                          | 27.77                               |
| 43                                                      | 29.15                        | 29.6                       | 27.05                 | 27.36                | 26.83                 | 28.5                       | 17.22               | 26.92               | 26.13               | 30.68                     | 30.21                | 26.11                          | 27.02                               |
| 44                                                      | 28.37                        | 28.9                       | 26.29                 | 26.61                | 26.04                 | 27.7                       | 16.80               | 26.15               | 25.42               | 29.92                     | 29.42                | 25.33                          | 26.27                               |
| 45                                                      | 27.59                        | 28.1                       | 25.53                 | 25.86                | 25.25                 | 26.9                       | 16.38               | 25.38               | 24.71               | 29.15                     | 28.64                | 24.55                          | 25.53                               |
| 46                                                      | 26.81                        | 27.3                       | 24.77                 | 25.11                | 24.47                 | 26.1                       | 15.96               | 24.60               | 23.90               | 28.38                     | 27.86                | 23.77                          | 24.79                               |
| 47                                                      | 26.03                        | 26.5                       | 24.02                 | 24.36                | 23.68                 | 25.3                       | 15.54               | 23.82               | 23.27               | 27.62                     | 27.07                | 23.00                          | 24.05                               |
| 48                                                      | 25.25                        | 25.7                       | 23.28                 | 23.62                | 22.90                 | 24.5                       | 15.12               | 23.03               | 22.54               | 26.85                     | 26.30                | 22.23                          | 23.32                               |
| 49                                                      | 24.47                        | 24.9                       | 22.54                 | 22.88                | 22.12                 | 23.7                       | 14.70               | 22.25               | 21.82               | 26.08                     | 25.52                | 21.47                          | 22.59                               |

\* These values were copied to the nearest second decimal. Only the first decimal was shown in the tables for Denmark and Holland.

† See first footnote on p. 203.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

## EXPECTATION OF LIFE IN YEARS.

TABLE 82

POPULATION AND DEATH STATISTICS, AND EXHIBITED HERE IN TABULAR FORM SO THAT A COMPARISON AT EACH AGE.

| AGE.                                           | AUSTRALIA:<br>1901-1910<br>* | DENMARK:<br>1906-1910<br>* | ENGLAND:<br>1901-1910 | FRANCE:<br>1898-1903 | GERMANY:<br>1901-1910 | HOLLAND:<br>1900-1909<br>* | INDIA:<br>1901-1910 | ITALY:<br>1901-1910 | JAPAN:<br>1898-1903 | NORWAY:<br>1901-1910<br>† | SWEDEN:<br>1901-1910 | SWITZER-<br>LAND:<br>1901-1910 | UNITED<br>STATES:<br>1901-1910<br>‡ |
|------------------------------------------------|------------------------------|----------------------------|-----------------------|----------------------|-----------------------|----------------------------|---------------------|---------------------|---------------------|---------------------------|----------------------|--------------------------------|-------------------------------------|
| 1                                              | 2                            | 3                          | 4                     | 5                    | 6                     | 7                          | 8                   | 9                   | 10                  | 11                        | 12                   | 13                             | 14                                  |
| COMPLETE EXPECTATION OF LIFE IN YEARS, $e_x$ . |                              |                            |                       |                      |                       |                            |                     |                     |                     |                           |                      |                                |                                     |
| FEMALES.                                       |                              |                            |                       |                      |                       |                            |                     |                     |                     |                           |                      |                                |                                     |
| 50                                             | 23.69                        | 24.1                       | 21.81                 | 22.14                | 21.35                 | 22.9                       | 14.28               | 21.47               | 21.11               | 25.31                     | 24.74                | 20.71                          | 21.86                               |
| 51                                             | 22.91                        | 23.3                       | 21.08                 | 21.41                | 20.59                 | 22.2                       | 13.87               | 20.69               | 20.39               | 24.55                     | 23.97                | 19.97                          | 21.14                               |
| 52                                             | 22.14                        | 22.5                       | 20.36                 | 20.67                | 19.84                 | 21.4                       | 13.45               | 19.93               | 19.69               | 23.79                     | 23.19                | 19.22                          | 20.42                               |
| 53                                             | 21.37                        | 22.0                       | 19.65                 | 19.95                | 19.10                 | 20.6                       | 13.03               | 19.16               | 18.99               | 23.03                     | 22.12                | 18.49                          | 19.71                               |
| 54                                             | 20.61                        | 21.0                       | 18.95                 | 19.23                | 18.36                 | 19.9                       | 12.62               | 18.41               | 18.30               | 22.28                     | 21.65                | 17.77                          | 19.01                               |
| 55                                             | 19.85                        | 20.2                       | 18.27                 | 18.52                | 17.64                 | 19.1                       | 12.20               | 17.65               | 17.61               | 21.53                     | 20.90                | 17.05                          | 18.33                               |
| 56                                             | 19.10                        | 19.4                       | 17.59                 | 17.81                | 16.92                 | 18.4                       | 11.78               | 16.91               | 16.94               | 20.78                     | 20.14                | 16.35                          | 17.65                               |
| 57                                             | 18.26                        | 18.7                       | 16.93                 | 17.11                | 16.21                 | 17.6                       | 11.36               | 16.16               | 16.27               | 20.04                     | 19.39                | 15.66                          | 17.00                               |
| 58                                             | 17.62                        | 17.9                       | 16.28                 | 16.41                | 15.52                 | 16.9                       | 10.94               | 15.43               | 15.61               | 19.30                     | 18.65                | 14.98                          | 16.35                               |
| 59                                             | 16.66                        | 17.2                       | 15.64                 | 15.74                | 14.84                 | 16.2                       | 10.53               | 14.72               | 14.96               | 18.57                     | 17.92                | 14.31                          | 15.71                               |
| 60                                             | 16.20                        | 16.5                       | 15.01                 | 15.08                | 14.17                 | 15.5                       | 10.11               | 14.02               | 14.32               | 17.85                     | 17.19                | 13.67                          | 15.09                               |
| 61                                             | 15.50                        | 15.7                       | 14.39                 | 14.43                | 13.52                 | 14.8                       | 9.70                | 13.35               | 13.70               | 17.13                     | 16.47                | 13.03                          | 14.47                               |
| 62                                             | 14.82                        | 15.1                       | 13.77                 | 13.79                | 12.88                 | 14.2                       | 9.30                | 12.69               | 13.09               | 16.43                     | 15.76                | 12.41                          | 13.86                               |
| 63                                             | 14.16                        | 14.5                       | 13.17                 | 13.32                | 12.27                 | 13.5                       | 8.89                | 12.05               | 12.49               | 15.73                     | 15.05                | 11.81                          | 13.27                               |
| 64                                             | 13.51                        | 13.7                       | 12.58                 | 12.56                | 11.67                 | 12.9                       | 8.49                | 11.42               | 11.91               | 15.05                     | 14.37                | 11.23                          | 12.69                               |
| 65                                             | 12.88                        | 13.0                       | 11.99                 | 11.97                | 11.09                 | 12.3                       | 8.10                | 10.81               | 11.35               | 14.38                     | 13.69                | 10.67                          | 12.13                               |
| 66                                             | 12.26                        | 12.4                       | 11.41                 | 11.38                | 10.53                 | 11.6                       | 7.71                | 10.21               | 10.80               | 13.72                     | 13.03                | 10.13                          | 11.58                               |
| 67                                             | 11.66                        | 11.8                       | 10.84                 | 10.81                | 9.98                  | 11.1                       | 7.33                | 9.63                | 10.26               | 13.08                     | 12.38                | 9.61                           | 11.04                               |
| 68                                             | 11.07                        | 11.2                       | 10.29                 | 10.26                | 9.45                  | 10.6                       | 6.95                | 9.07                | 9.75                | 12.45                     | 11.74                | 9.11                           | 10.52                               |
| 69                                             | 10.50                        | 10.6                       | 9.76                  | 9.73                 | 8.95                  | 9.9                        | 6.58                | 8.53                | 9.25                | 11.83                     | 11.13                | 8.62                           | 10.01                               |
| 70                                             | 9.96                         | 10.0                       | 9.25                  | 9.21                 | 8.45                  | 9.4                        | 6.22                | 8.02                | 8.77                | 11.23                     | 10.53                | 8.15                           | 9.52                                |
| 71                                             | 9.43                         | 9.5                        | 8.77                  | 8.73                 | 7.98                  | 8.9                        | 5.86                | 7.54                | 8.30                | 10.64                     | 9.95                 | 7.70                           | 9.04                                |
| 72                                             | 8.93                         | 8.9                        | 8.32                  | 8.26                 | 7.53                  | 8.4                        | 5.51                | 7.08                | 7.85                | 10.08                     | 9.38                 | 7.27                           | 8.58                                |
| 73                                             | 8.46                         | 8.5                        | 7.90                  | 7.82                 | 7.10                  | 7.9                        | 5.17                | 6.64                | 7.42                | 9.53                      | 8.84                 | 6.86                           | 8.13                                |
| 74                                             | 8.01                         | 8.0                        | 7.49                  | 7.40                 | 6.69                  | 7.5                        | 4.84                | 6.22                | 7.01                | 9.00                      | 8.32                 | 6.46                           | 7.70                                |
| 75                                             | 7.59                         | 7.5                        | 7.10                  | 7.00                 | 6.30                  | 7.0                        | 4.52                | 5.83                | 6.61                | 8.49                      | 7.81                 | 6.09                           | 7.29                                |
| 76                                             | 7.18                         | 7.1                        | 6.73                  | 6.63                 | 5.94                  | 6.6                        | 4.20                | 5.44                | 6.23                | 8.01                      | 7.33                 | 5.74                           | 6.88                                |
| 77                                             | 6.80                         | 6.6                        | 6.36                  | 6.28                 | 5.59                  | 6.2                        | 3.90                | 5.08                | 5.86                | 7.55                      | 6.87                 | 5.41                           | 6.50                                |
| 78                                             | 6.43                         | 6.2                        | 6.02                  | 5.96                 | 5.26                  | 5.9                        | 3.61                | 4.73                | 5.51                | 7.11                      | 6.45                 | 5.09                           | 6.13                                |
| 79                                             | 6.07                         | 5.8                        | 5.68                  | 5.66                 | 4.95                  | 5.5                        | 3.33                | 4.40                | 5.18                | 6.69                      | 6.03                 | 4.79                           | 5.77                                |
| 80                                             | 5.73                         | 5.5                        | 5.36                  | 5.38                 | 4.65                  | 5.2                        | 3.06                | 4.11                | 4.85                | 6.29                      | 5.64                 | 4.51                           | 5.43                                |
| 81                                             | 5.40                         | 5.2                        | 5.05                  | 5.14                 | 4.36                  | 4.9                        | 2.81                | 3.84                | 4.55                | 5.90                      | 5.27                 | 4.24                           | 5.12                                |
| 82                                             | 5.08                         | 4.9                        | 4.76                  | 4.91                 | 4.09                  | 4.6                        | 2.57                | 3.59                | 4.25                | 5.54                      | 4.93                 | 4.00                           | 4.83                                |
| 83                                             | 4.77                         | 4.6                        | 4.47                  | 4.71                 | 3.84                  | 4.3                        | 2.34                | 3.36                | 3.97                | 5.19                      | 4.60                 | 3.76                           | 4.56                                |
| 84                                             | 4.47                         | 4.3                        | 4.20                  | 4.53                 | 3.61                  | 4.0                        | 2.12                | 3.14                | 3.70                | 4.87                      | 4.29                 | 3.55                           | 4.30                                |
| 85                                             | 4.19                         | 4.0                        | 3.94                  | 4.39                 | 3.40                  | 3.7                        | 1.93                | 2.94                | 3.45                | 4.57                      | 4.02                 | 3.34                           | 4.05                                |
| 86                                             | 3.92                         | 3.8                        | 3.71                  | 4.27                 | 3.20                  | 3.5                        | 1.74                | 2.74                | 3.21                | 4.29                      | 3.76                 | 3.14                           | 3.83                                |
| 87                                             | 3.66                         | 3.5                        | 3.49                  | 4.16                 | 3.03                  | 3.2                        | 1.56                | 2.54                | 2.98                | 4.03                      | 3.52                 | 2.95                           | 3.62                                |
| 88                                             | 3.42                         | 3.3                        | 3.30                  | 4.05                 | 2.87                  | 3.0                        | 1.40                | 2.36                | 2.76                | 3.78                      | 3.30                 | 2.77                           | 3.42                                |
| 89                                             | 3.20                         | 3.1                        | 3.11                  | 3.94                 | 2.73                  | 2.7                        | 1.24                | 2.18                | 2.56                | 3.54                      | 3.10                 | 2.60                           | 3.23                                |
| 90                                             | 2.99                         | 2.9                        | 2.94                  | 3.84                 | 2.59                  | 2.4                        | 1.10                | 2.01                | 2.36                | 3.31                      | 2.91                 | 2.45                           | 3.05                                |
| 91                                             | 2.79                         | .....                      | 2.79                  | 3.74                 | 2.47                  | 2.2                        | .96                 | 1.85                | 2.18                | 3.10                      | 2.72                 | 2.33                           | 2.89                                |
| 92                                             | 2.60                         | .....                      | 2.66                  | 3.64                 | 2.36                  | 1.9                        | .84                 | 1.70                | 2.00                | 2.90                      | 2.51                 | 2.21                           | 2.74                                |
| 93                                             | 2.43                         | .....                      | 2.53                  | 3.53                 | 2.26                  | 1.6                        | .72                 | 1.56                | 1.84                | 2.72                      | 2.39                 | 2.08                           | 2.60                                |
| 94                                             | 2.26                         | .....                      | 2.42                  | 3.43                 | 2.17                  | 1.4                        | .....               | 1.44                | 1.68                | 2.57                      | 2.25                 | 1.92                           | 2.48                                |
| 95                                             | 2.10                         | .....                      | 2.32                  | 3.33                 | 2.10                  | 1.1                        | .....               | 1.31                | 1.55                | 2.43                      | 2.10                 | 1.76                           | 2.37                                |
| 96                                             | 1.94                         | .....                      | 2.22                  | 3.21                 | 2.03                  | 0.9                        | .....               | 1.20                | 1.41                | 2.30                      | 2.00                 | 1.62                           | 2.27                                |
| 97                                             | 1.78                         | .....                      | 2.12                  | 3.09                 | 1.93                  | 0.8                        | .....               | 1.08                | 1.29                | 2.18                      | 1.95                 | 1.45                           | 2.17                                |
| 98                                             | 1.62                         | .....                      | 2.01                  | 2.94                 | 1.83                  | 0.7                        | .....               | .75                 | 1.19                | 2.07                      | 1.89                 | 1.33                           | 2.08                                |
| 99                                             | 1.44                         | .....                      | 1.91                  | 2.78                 | 1.70                  | 0.5                        | .....               | .50                 | 1.07                | 1.94                      | 1.79                 | 1.23                           | 1.99                                |
| 100                                            | 1.24                         | .....                      | 1.80                  | 2.59                 | 1.57                  | .....                      | .....               | .....               | .83                 | 1.81                      | 1.70                 | 1.10                           | 1.90                                |

\* These values were copied to the nearest second decimal. Only the first decimal was shown in the tables for Denmark and Holland.

† See first footnote on p. 203.

‡ Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

## UNITED STATES LIFE TABLES.

TABLE 83

FOREIGN COUNTRIES. MALES.

TAKEN FROM THE PUBLISHED LIFE TABLES OF VARIOUS COUNTRIES.\* BASED ON THEIR OFFICIAL  
MAY BE MADE

| AGE.                                      | AUSTRALIA:<br>1901-1910 | DENMARK:<br>1906-1910 | ENGLAND:<br>1901-1910 | FRANCE:<br>1898-1903 | GERMANY:<br>1901-1910 | HOLLAND:<br>1900-1909 | INDIA:<br>1901-1910 | ITALY:<br>1901-1910 | JAPAN:<br>1898-1903 | NORWAY:<br>1901-1910 | SWEDEN:<br>1901-1910 | SWITZER-<br>LAND:<br>1901-1910 | UNITED<br>STATES:<br>1901-1910<br>† |
|-------------------------------------------|-------------------------|-----------------------|-----------------------|----------------------|-----------------------|-----------------------|---------------------|---------------------|---------------------|----------------------|----------------------|--------------------------------|-------------------------------------|
| 1                                         | 2                       | 3                     | 4                     | 5                    | 6                     | 7                     | 8                   | 9                   | 10                  | 11                   | 12                   | 13                             | 14                                  |
| MALES. MEASURE OF VITALITY, $\lambda_x$ . |                         |                       |                       |                      |                       |                       |                     |                     |                     |                      |                      |                                |                                     |
| 0                                         | 10.02                   | 7.79                  | 6.43                  | 5.63                 | 4.44                  | 6.62                  | 2.95                | 5.46                | 5.88                | 11.78                | 10.30                | 6.73                           | 7.14                                |
| 1                                         | 55.67                   | 59.09                 | 24.26                 | 29.01                | 24.58                 | 27.03                 | 10.47               | 13.71               | 26.63               | 53.98                | 43.42                | 44.99                          | 32.54                               |
| 2                                         | 147.88                  | 146.56                | 62.19                 | 52.37                | 66.50                 | 59.57                 | 14.72               | 31.97               | 38.10               | 115.55               | 91.21                | 101.76                         | 72.17                               |
| 3                                         | 227.03                  | 223.16                | 99.31                 | 83.43                | 105.01                | 108.63                | 20.20               | 56.87               | 58.31               | 150.88               | 126.02               | 152.89                         | 113.19                              |
| 4                                         | 285.79                  | 315.00                | 134.55                | 115.94               | 144.32                | 152.48                | 27.23               | 84.78               | 88.88               | 193.44               | 163.38               | 192.74                         | 151.12                              |
| 5                                         | 355.54                  | 350.24                | 183.85                | 157.09               | 189.30                | 201.12                | 35.82               | 129.70              | 126.50              | 227.84               | 198.79               | 212.06                         | 190.21                              |
| 6                                         | 425.54                  | 396.63                | 250.83                | 196.94               | 231.60                | 252.17                | 45.55               | 200.21              | 170.54              | 258.26               | 228.99               | 255.95                         | 225.99                              |
| 7                                         | 478.26                  | 436.47                | 335.62                | 232.25               | 280.06                | 303.05                | 55.90               | 300.32              | 210.16              | 283.12               | 249.30               | 288.17                         | 265.52                              |
| 8                                         | 510.96                  | 480.06                | 429.19                | 269.74               | 330.92                | 356.56                | 65.26               | 404.35              | 242.19              | 301.68               | 282.08               | 300.90                         | 309.03                              |
| 9                                         | 541.89                  | 520.50                | 508.19                | 303.07               | 372.07                | 404.86                | 73.70               | 457.71              | 273.82              | 319.50               | 308.73               | 311.19                         | 350.96                              |
| 10                                        | 558.35                  | 553.71                | 549.77                | 329.69               | 410.95                | 442.48                | 79.71               | 442.51              | 301.48              | 334.52               | 309.98               | 311.06                         | 351.52                              |
| 11                                        | 557.35                  | 563.85                | 546.07                | 348.41               | 445.21                | 479.21                | 83.12               | 390.51              | 315.78              | 348.33               | 337.46               | 340.08                         | 397.49                              |
| 12                                        | 542.34                  | 562.85                | 512.01                | 352.29               | 473.27                | 496.39                | 83.25               | 335.91              | 314.78              | 351.59               | 356.44               | 399.98                         | 391.54                              |
| 13                                        | 503.32                  | 540.08                | 468.69                | 340.15               | 466.17                | 483.14                | 81.55               | 294.38              | 281.52              | 336.82               | 301.58               | 350.55                         | 373.28                              |
| 14                                        | 445.00                  | 480.16                | 421.51                | 307.13               | 419.15                | 438.76                | 78.54               | 263.66              | 241.03              | 298.32               | 351.48               | 457.10                         | 344.85                              |
| 15                                        | 391.23                  | 402.09                | 382.54                | 265.76               | 361.34                | 383.79                | 74.92               | 242.63              | 209.79              | 244.41               | 310.03               | 371.42                         | 313.91                              |
| 16                                        | 356.04                  | 356.81                | 350.09                | 228.14               | 305.07                | 332.01                | 71.06               | 225.23              | 180.82              | 194.30               | 257.28               | 304.13                         | 280.67                              |
| 17                                        | 328.96                  | 330.26                | 323.59                | 197.93               | 261.67                | 283.65                | 67.45               | 209.33              | 157.52              | 157.50               | 220.68               | 251.63                         | 250.32                              |
| 18                                        | 301.17                  | 303.80                | 300.99                | 174.88               | 228.76                | 239.50                | 63.88               | 191.56              | 139.78              | 133.29               | 187.15               | 222.31                         | 224.34                              |
| 19                                        | 285.95                  | 281.06                | 281.15                | 156.37               | 207.07                | 209.82                | 61.04               | 175.00              | 127.61              | 117.04               | 167.70               | 203.06                         | 201.94                              |
| 20                                        | 269.45                  | 258.01                | 263.78                | 142.54               | 197.95                | 196.05                | 58.57               | 160.86              | 119.96              | 109.78               | 155.60               | 193.10                         | 182.93                              |
| 21                                        | 255.37                  | 246.89                | 249.58                | 132.60               | 196.95                | 193.95                | 56.35               | 150.95              | 115.81              | 106.78               | 152.55               | 188.39                         | 170.28                              |
| 22                                        | 246.85                  | 237.27                | 238.19                | 127.65               | 197.62                | 194.04                | 51.26               | 144.70              | 114.25              | 106.05               | 154.17               | 186.49                         | 165.62                              |
| 23                                        | 238.79                  | 230.22                | 230.12                | 127.31               | 198.31                | 196.48                | 52.31               | 142.50              | 114.37              | 107.32               | 153.77               | 185.05                         | 163.91                              |
| 24                                        | 229.87                  | 238.73                | 224.70                | 129.36               | 196.74                | 198.60                | 50.47               | 143.09              | 116.27              | 109.86               | 150.08               | 182.30                         | 161.86                              |
| 25                                        | 222.60                  | 247.26                | 219.79                | 132.51               | 194.63                | 203.00                | 48.43               | 145.54              | 118.91              | 113.43               | 158.85               | 179.17                         | 160.18                              |
| 26                                        | 214.72                  | 243.26                | 214.10                | 135.61               | 192.54                | 207.67                | 46.06               | 148.14              | 121.76              | 117.36               | 158.81               | 174.88                         | 157.50                              |
| 27                                        | 206.81                  | 240.07                | 206.34                | 135.97               | 191.00                | 209.61                | 45.74               | 140.51              | 124.60              | 121.30               | 162.10               | 170.73                         | 152.95                              |
| 28                                        | 202.12                  | 236.02                | 196.67                | 133.91               | 188.41                | 209.81                | 44.52               | 149.55              | 126.19              | 125.23               | 162.48               | 160.71                         | 146.81                              |
| 29                                        | 198.16                  | 232.45                | 186.30                | 130.85               | 183.81                | 208.21                | 43.26               | 149.94              | 126.89              | 128.65               | 162.49               | 163.89                         | 141.58                              |
| 30                                        | 192.45                  | 222.91                | 176.06                | 126.67               | 179.37                | 210.21                | 42.00               | 149.29              | 126.62              | 131.67               | 164.08               | 160.77                         | 136.36                              |
| 31                                        | 184.61                  | 215.78                | 166.50                | 122.43               | 174.62                | 214.18                | 40.52               | 148.63              | 125.38              | 131.19               | 164.34               | 157.04                         | 130.70                              |
| 32                                        | 178.45                  | 208.45                | 157.63                | 117.75               | 168.73                | 211.30                | 39.15               | 147.20              | 123.18              | 135.63               | 165.13               | 150.89                         | 124.95                              |
| 33                                        | 171.67                  | 200.98                | 150.06                | 113.71               | 160.34                | 201.42                | 37.83               | 145.60              | 120.79              | 136.37               | 165.95               | 144.52                         | 119.36                              |
| 34                                        | 165.99                  | 193.94                | 142.87                | 109.47               | 151.20                | 192.29                | 36.62               | 143.60              | 117.77              | 136.38               | 164.22               | 138.02                         | 114.14                              |
| 35                                        | 157.35                  | 188.68                | 136.07                | 105.62               | 142.90                | 185.77                | 35.46               | 141.29              | 114.63              | 135.63               | 156.65               | 132.21                         | 108.90                              |
| 36                                        | 150.29                  | 182.27                | 129.60                | 101.94               | 135.61                | 178.22                | 31.34               | 137.76              | 111.18              | 134.63               | 155.98               | 126.30                         | 104.95                              |
| 37                                        | 142.92                  | 172.60                | 123.37                | 98.57                | 128.11                | 170.73                | 33.34               | 133.74              | 107.29              | 133.38               | 152.39               | 120.17                         | 102.08                              |
| 38                                        | 135.15                  | 163.40                | 117.55                | 95.92                | 120.33                | 163.35                | 32.30               | 128.76              | 103.57              | 131.89               | 147.68               | 113.36                         | 100.04                              |
| 39                                        | 128.04                  | 154.04                | 112.13                | 93.19                | 114.11                | 154.38                | 31.37               | 123.02              | 99.68               | 129.93               | 139.57               | 107.30                         | 97.74                               |
| 40                                        | 122.10                  | 144.41                | 106.89                | 90.02                | 107.99                | 146.81                | 30.48               | 117.42              | 95.66               | 127.98               | 131.42               | 101.27                         | 95.62                               |
| 41                                        | 115.83                  | 135.25                | 101.69                | 86.71                | 101.51                | 140.41                | 29.58               | 112.19              | 91.43               | 125.37               | 128.06               | 95.87                          | 93.01                               |
| 42                                        | 109.40                  | 127.03                | 96.39                 | 83.20                | 95.46                 | 134.15                | 28.75               | 107.29              | 87.44               | 122.60               | 123.92               | 90.39                          | 89.10                               |
| 43                                        | 103.06                  | 119.78                | 91.15                 | 79.74                | 90.48                 | 127.10                | 27.94               | 103.42              | 83.30               | 119.05               | 119.96               | 85.13                          | 84.73                               |
| 44                                        | 97.27                   | 111.94                | 86.12                 | 76.26                | 85.36                 | 118.05                | 27.20               | 99.91               | 78.98               | 115.43               | 116.55               | 80.21                          | 80.33                               |
| 45                                        | 91.83                   | 106.15                | 81.23                 | 72.87                | 79.89                 | 110.94                | 26.39               | 96.54               | 74.76               | 111.57               | 107.73               | 75.95                          | 75.86                               |
| 46                                        | 87.04                   | 102.10                | 76.54                 | 69.48                | 75.30                 | 105.85                | 25.67               | 92.41               | 70.73               | 107.53               | 105.57               | 72.06                          | 72.15                               |
| 47                                        | 82.49                   | 97.98                 | 71.99                 | 66.35                | 71.15                 | 100.14                | 24.97               | 88.45               | 68.74               | 103.18               | 99.45                | 68.13                          | 69.84                               |
| 48                                        | 78.89                   | 93.69                 | 67.70                 | 63.46                | 66.58                 | 93.77                 | 24.24               | 83.56               | 62.88               | 98.77                | 100.84               | 63.87                          | 68.29                               |
| 49                                        | 74.81                   | 89.18                 | 63.68                 | 60.77                | 62.47                 | 88.98                 | 23.56               | 78.58               | 59.30               | 94.06                | 91.12                | 59.60                          | 66.53                               |

\* See second footnote on p. 203.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

## MEASURE OF VITALITY.\*

TABLE 83

POPULATION AND DEATH STATISTICS, AND EXHIBITED HERE IN TABULAR FORM SO THAT A COMPARISON AT EACH AGE.

| AGE.                               | AUSTRALIA:<br>1901-1910 | DENMARK:<br>1906-1910 | ENGLAND:<br>1901-1910 | FRANCE:<br>1898-1903 | GERMANY:<br>1901-1910 | HOLLAND:<br>1900-1909 | INDIA:<br>1901-1910 | ITALY:<br>1901-1910 | JAPAN:<br>1898-1903 | NORWAY:<br>1901-1910 | SWEDEN:<br>1901-1910 | SWITZER-<br>LAND:<br>1901-1910 | UNITED<br>STATES:<br>1901-1910<br>† |
|------------------------------------|-------------------------|-----------------------|-----------------------|----------------------|-----------------------|-----------------------|---------------------|---------------------|---------------------|----------------------|----------------------|--------------------------------|-------------------------------------|
| 1                                  | 2                       | 3                     | 4                     | 5                    | 6                     | 7                     | 8                   | 9                   | 10                  | 11                   | 12                   | 13                             | 14                                  |
| MEASURE OF VITALITY, $\lambda_x$ . |                         |                       |                       |                      |                       |                       |                     |                     |                     |                      |                      |                                |                                     |
| MALES.                             |                         |                       |                       |                      |                       |                       |                     |                     |                     |                      |                      |                                |                                     |
| 50                                 | 71.24                   | 83.70                 | 59.83                 | 58.32                | 58.56                 | 84.42                 | 22.88               | 73.81               | 55.85               | 89.52                | 88.41                | 55.44                          | 64.94                               |
| 51                                 | 67.80                   | 78.51                 | 56.13                 | 55.90                | 51.79                 | 79.76                 | 22.22               | 69.34               | 52.52               | 85.17                | 81.94                | 51.65                          | 62.61                               |
| 52                                 | 64.49                   | 73.19                 | 52.54                 | 53.63                | 51.31                 | 74.70                 | 21.53               | 65.22               | 49.23               | 80.88                | 77.95                | 48.30                          | 58.90                               |
| 53                                 | 61.19                   | 67.95                 | 49.11                 | 51.28                | 48.19                 | 69.04                 | 20.89               | 61.80               | 46.21               | 77.17                | 73.78                | 45.13                          | 54.52                               |
| 54                                 | 57.82                   | 62.68                 | 45.88                 | 48.73                | 45.07                 | 63.58                 | 20.22               | 58.86               | 43.20               | 73.58                | 68.72                | 42.32                          | 50.38                               |
| 55                                 | 54.57                   | 58.08                 | 42.83                 | 45.95                | 41.92                 | 58.78                 | 19.54               | 55.88               | 40.36               | 70.10                | 65.03                | 39.75                          | 46.28                               |
| 56                                 | 51.22                   | 53.74                 | 39.98                 | 43.01                | 39.31                 | 54.84                 | 18.90               | 52.60               | 37.63               | 66.67                | 63.22                | 37.25                          | 42.63                               |
| 57                                 | 47.80                   | 50.06                 | 37.20                 | 39.90                | 37.06                 | 50.95                 | 18.21               | 48.81               | 35.02               | 63.16                | 59.63                | 34.71                          | 39.79                               |
| 58                                 | 44.34                   | 46.19                 | 34.72                 | 37.07                | 34.73                 | 47.36                 | 17.54               | 44.75               | 32.54               | 59.50                | 55.37                | 32.16                          | 37.40                               |
| 59                                 | 41.27                   | 43.48                 | 32.36                 | 34.41                | 32.41                 | 44.00                 | 16.89               | 40.73               | 30.22               | 55.65                | 51.12                | 29.82                          | 35.12                               |
| 60                                 | 38.11                   | 41.36                 | 30.16                 | 31.93                | 30.18                 | 40.66                 | 16.21               | 37.07               | 28.02               | 51.76                | 47.91                | 27.72                          | 32.95                               |
| 61                                 | 35.25                   | 38.60                 | 28.11                 | 29.66                | 28.00                 | 38.06                 | 15.52               | 33.78               | 25.96               | 47.90                | 43.18                | 25.90                          | 30.81                               |
| 62                                 | 32.71                   | 35.93                 | 26.20                 | 27.55                | 25.90                 | 34.89                 | 14.82               | 30.91               | 24.04               | 44.14                | 42.72                | 24.17                          | 28.65                               |
| 63                                 | 30.21                   | 33.42                 | 24.48                 | 25.63                | 24.00                 | 31.55                 | 14.14               | 28.53               | 22.24               | 40.58                | 37.64                | 22.53                          | 26.50                               |
| 64                                 | 27.77                   | 31.21                 | 22.92                 | 23.81                | 22.28                 | 28.95                 | 13.45               | 26.52               | 20.57               | 37.27                | 35.40                | 20.88                          | 24.56                               |
| 65                                 | 25.42                   | 28.88                 | 21.44                 | 22.07                | 20.75                 | 26.38                 | 12.75               | 24.61               | 19.02               | 34.22                | 32.79                | 19.34                          | 22.79                               |
| 66                                 | 23.14                   | 26.50                 | 19.99                 | 20.36                | 19.21                 | 24.05                 | 12.04               | 22.65               | 17.61               | 31.48                | 30.53                | 17.86                          | 21.22                               |
| 67                                 | 21.03                   | 24.23                 | 18.54                 | 18.71                | 17.64                 | 22.20                 | 11.36               | 20.60               | 16.30               | 29.04                | 28.87                | 16.50                          | 19.82                               |
| 68                                 | 19.08                   | 22.16                 | 17.09                 | 17.12                | 16.26                 | 20.37                 | 10.67               | 18.57               | 15.09               | 26.83                | 25.35                | 15.24                          | 18.54                               |
| 69                                 | 17.32                   | 20.14                 | 15.70                 | 15.57                | 15.07                 | 18.55                 | 9.97                | 16.70               | 13.97               | 24.81                | 23.33                | 14.08                          | 17.32                               |
| 70                                 | 15.73                   | 18.15                 | 14.41                 | 14.14                | 13.92                 | 16.91                 | 9.34                | 15.01               | 12.94               | 22.89                | 21.05                | 13.02                          | 16.19                               |
| 71                                 | 14.29                   | 16.68                 | 13.22                 | 12.83                | 12.73                 | 15.60                 | 8.67                | 13.51               | 11.96               | 21.02                | 19.29                | 12.07                          | 15.05                               |
| 72                                 | 12.99                   | 15.54                 | 12.16                 | 11.66                | 11.60                 | 14.21                 | 8.02                | 12.19               | 11.08               | 19.22                | 17.52                | 11.17                          | 13.86                               |
| 73                                 | 11.81                   | 14.31                 | 11.17                 | 10.65                | 10.62                 | 12.84                 | 7.42                | 11.08               | 10.26               | 17.50                | 16.01                | 10.31                          | 12.70                               |
| 74                                 | 10.78                   | 13.08                 | 10.26                 | 9.59                 | 9.74                  | 11.72                 | 6.82                | 10.13               | 9.52                | 15.90                | 14.33                | 9.48                           | 11.61                               |
| 75                                 | 9.91                    | 11.88                 | 9.44                  | 8.70                 | 8.90                  | 10.71                 | 6.26                | 9.24                | 8.80                | 14.44                | 12.91                | 8.68                           | 10.60                               |
| 76                                 | 9.15                    | 10.71                 | 8.70                  | 7.88                 | 8.17                  | 9.75                  | 5.72                | 8.40                | 8.14                | 13.13                | 11.84                | 7.91                           | 9.70                                |
| 77                                 | 8.46                    | 9.54                  | 8.06                  | 7.13                 | 7.52                  | 8.92                  | 5.22                | 7.59                | 7.52                | 11.93                | 10.63                | 7.19                           | 8.96                                |
| 78                                 | 7.84                    | 8.58                  | 7.50                  | 6.45                 | 6.90                  | 8.24                  | 4.72                | 6.78                | 6.95                | 10.83                | 9.40                 | 6.54                           | 8.30                                |
| 79                                 | 7.27                    | 7.82                  | 7.01                  | 5.89                 | 6.34                  | 7.47                  | 4.28                | 6.03                | 6.41                | 9.82                 | 8.64                 | 5.98                           | 7.64                                |
| 80                                 | 6.75                    | 7.08                  | 6.56                  | 5.46                 | 5.83                  | 6.80                  | 3.87                | 5.39                | 5.92                | 8.90                 | 7.78                 | 5.49                           | 6.98                                |
| 81                                 | 6.27                    | 6.43                  | 6.12                  | 5.13                 | 5.35                  | 6.25                  | 3.48                | 4.86                | 5.46                | 8.08                 | 7.13                 | 5.08                           | 6.38                                |
| 82                                 | 5.80                    | 5.89                  | 5.69                  | 4.80                 | 4.91                  | 5.76                  | 3.13                | 4.43                | 5.03                | 7.34                 | 6.33                 | 4.71                           | 5.87                                |
| 83                                 | 5.35                    | 5.38                  | 5.25                  | 4.44                 | 4.51                  | 5.27                  | 2.82                | 4.08                | 4.64                | 6.69                 | 5.78                 | 4.39                           | 5.41                                |
| 84                                 | 4.94                    | 5.00                  | 4.82                  | 4.08                 | 4.14                  | 4.81                  | 2.52                | 3.76                | 4.27                | 6.11                 | 5.15                 | 4.09                           | 4.99                                |
| 85                                 | 4.58                    | 4.72                  | 4.42                  | 3.84                 | 3.82                  | 4.40                  | 2.23                | 3.48                | 3.93                | 5.59                 | 4.70                 | 3.81                           | 4.63                                |
| 86                                 | 4.24                    | 4.45                  | 4.06                  | 3.68                 | 3.53                  | 4.11                  | 2.01                | 3.21                | 3.61                | 5.13                 | 4.25                 | 3.52                           | 4.31                                |
| 87                                 | 3.93                    | 3.96                  | 3.73                  | 3.53                 | 3.27                  | 3.86                  | 1.83                | 2.96                | 3.32                | 4.73                 | 3.94                 | 3.24                           | 4.02                                |
| 88                                 | 3.64                    | 3.39                  | 3.43                  | 3.39                 | 3.03                  | 3.60                  | 1.60                | 2.73                | 3.04                | 4.37                 | 3.58                 | 3.00                           | 3.77                                |
| 89                                 | 3.36                    | 3.05                  | 3.14                  | 3.25                 | 2.82                  | 3.35                  | 1.42                | 2.50                | 2.79                | 4.04                 | 3.21                 | 2.80                           | 3.54                                |
| 90                                 | 3.11                    | .....                 | 2.88                  | 3.10                 | 2.62                  | 2.95                  | 1.33                | 2.29                | 2.56                | 3.74                 | 2.98                 | 2.66                           | 3.32                                |
| 91                                 | 2.87                    | .....                 | 2.66                  | 2.98                 | 2.46                  | 2.36                  | 1.17                | 2.08                | 2.33                | 3.46                 | 2.79                 | 2.52                           | 3.12                                |
| 92                                 | 2.66                    | .....                 | 2.50                  | 2.85                 | 2.29                  | 1.94                  | 1.50                | 1.90                | 2.14                | 3.20                 | 2.57                 | 2.42                           | 2.94                                |
| 93                                 | 2.46                    | .....                 | 2.37                  | 2.71                 | 2.16                  | 1.63                  | .50                 | 1.72                | 1.94                | 2.95                 | 2.45                 | 2.23                           | 2.76                                |
| 94                                 | 2.29                    | .....                 | 2.28                  | 2.57                 | 2.03                  | 1.39                  | .....               | 1.59                | 1.80                | 2.73                 | 2.21                 | 2.06                           | 2.60                                |
| 95                                 | 2.12                    | .....                 | 2.20                  | 2.40                 | 1.92                  | 1.16                  | .....               | 1.40                | 1.61                | 2.54                 | 2.02                 | 1.84                           | 2.44                                |
| 96                                 | 1.98                    | .....                 | 2.15                  | 2.26                 | 1.81                  | .92                   | .....               | 1.30                | 1.50                | 2.36                 | 1.88                 | 1.65                           | 2.30                                |
| 97                                 | 1.85                    | .....                 | 2.08                  | 2.18                 | 1.73                  | .80                   | .....               | 1.10                | 1.38                | 2.19                 | 1.89                 | 1.42                           | 2.16                                |
| 98                                 | 1.72                    | .....                 | 1.99                  | 1.96                 | 1.65                  | .50                   | .....               | 1.00                | 1.25                | 2.03                 | 1.83                 | 1.33                           | 2.07                                |
| 99                                 | 1.58                    | .....                 | 1.89                  | 1.88                 | 1.57                  | .....                 | .....               | .50                 | 1.00                | 1.88                 | 1.58                 | 1.17                           | 1.91                                |
| 100                                | 1.40                    | .....                 | 1.73                  | 1.70                 | .....                 | .....                 | .....               | .....               | .50                 | 1.68                 | 1.52                 | .....                          | 1.79                                |

\* See second footnote on p. 203.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

## UNITED STATES LIFE TABLES.

TABLE 84

FOREIGN COUNTRIES. FEMALES.

TAKEN FROM THE PUBLISHED LIFE TABLES OF VARIOUS COUNTRIES,\* BASED ON THEIR OFFICIAL  
MAY BE MADE

| AGE.                                        | AUSTRALIA:<br>1901-1910 | DENMARK:<br>1906-1910 | ENGLAND:<br>1901-1910 | FRANCE:<br>1898-1902 | GERMANY:<br>1901-1910 | HOLLAND:<br>1900-1909 | INDIA:<br>1901-1910 | ITALY:<br>1901-1910 | JAPAN:<br>1898-1903 | NORWAY:<br>1901-1910 | SWEDEN:<br>1901-1910 | SWITZER-<br>LAND:<br>1901-1910 | UNITED<br>STATES:<br>1901-1910<br>† |
|---------------------------------------------|-------------------------|-----------------------|-----------------------|----------------------|-----------------------|-----------------------|---------------------|---------------------|---------------------|----------------------|----------------------|--------------------------------|-------------------------------------|
| 1                                           | 2                       | 3                     | 4                     | 5                    | 6                     | 7                     | 8                   | 9                   | 10                  | 11                   | 12                   | 13                             | 14                                  |
| FEMALES. MEASURE OF VITALITY, $\lambda_x$ . |                         |                       |                       |                      |                       |                       |                     |                     |                     |                      |                      |                                |                                     |
| 0                                           | 12.07                   | 9.73                  | 8.02                  | 6.83                 | 5.37                  | 8.00                  | 3.01                | 6.07                | 6.60                | 14.47                | 12.66                | 8.38                           | 8.79                                |
| 1                                           | 59.58                   | 62.03                 | 26.07                 | 31.08                | 25.50                 | 28.73                 | 11.10               | 13.51               | 27.29               | 59.17                | 46.64                | 45.77                          | 35.88                               |
| 2                                           | 158.58                  | 158.61                | 65.01                 | 56.50                | 67.85                 | 63.14                 | 15.73               | 30.89               | 37.93               | 110.18               | 96.44                | 105.38                         | 78.77                               |
| 3                                           | 242.60                  | 228.31                | 99.01                 | 85.97                | 107.61                | 121.41                | 21.68               | 55.39               | 57.24               | 161.29               | 131.32               | 159.36                         | 120.29                              |
| 4                                           | 307.32                  | 312.09                | 133.24                | 114.84               | 145.59                | 167.55                | 29.18               | 79.91               | 85.10               | 203.03               | 162.49               | 206.94                         | 163.30                              |
| 5                                           | 387.70                  | 388.65                | 180.15                | 153.71               | 188.12                | 215.40                | 37.62               | 117.23              | 122.87              | 233.06               | 193.11               | 246.03                         | 199.66                              |
| 6                                           | 468.21                  | 427.60                | 242.43                | 189.46               | 227.76                | 265.87                | 46.65               | 171.18              | 167.33              | 260.51               | 228.82               | 312.08                         | 240.20                              |
| 7                                           | 522.24                  | 448.62                | 318.54                | 221.23               | 267.29                | 316.09                | 55.76               | 240.82              | 207.14              | 285.38               | 263.69               | 339.98                         | 286.81                              |
| 8                                           | 571.73                  | 464.39                | 390.36                | 257.48               | 313.50                | 361.41                | 64.37               | 309.66              | 236.75              | 303.89               | 272.59               | 373.68                         | 339.35                              |
| 9                                           | 610.12                  | 476.14                | 466.49                | 285.34               | 356.58                | 405.05                | 71.17               | 347.31              | 254.65              | 313.65               | 301.93               | 409.09                         | 389.02                              |
| 10                                          | 630.89                  | 480.42                | 502.96                | 304.21               | 390.45                | 439.04                | 77.10               | 344.65              | 265.16              | 312.65               | 307.36               | 442.67                         | 423.70                              |
| 11                                          | 612.38                  | 471.55                | 504.17                | 309.22               | 410.65                | 450.22                | 80.50               | 313.59              | 259.63              | 303.04               | 315.35               | 446.40                         | 436.06                              |
| 12                                          | 571.65                  | 453.20                | 481.73                | 298.75               | 414.15                | 437.06                | 81.06               | 277.40              | 236.70              | 282.52               | 312.06               | 411.35                         | 426.08                              |
| 13                                          | 542.44                  | 431.73                | 449.18                | 274.57               | 393.66                | 407.40                | 80.19               | 245.81              | 207.61              | 260.47               | 280.42               | 361.34                         | 399.36                              |
| 14                                          | 498.34                  | 393.14                | 416.20                | 247.31               | 362.27                | 357.57                | 77.54               | 221.84              | 179.32              | 238.11               | 261.39               | 307.88                         | 362.30                              |
| 15                                          | 458.24                  | 341.88                | 387.35                | 223.41               | 330.86                | 310.90                | 74.27               | 204.21              | 156.16              | 217.95               | 238.40               | 262.00                         | 322.84                              |
| 16                                          | 408.96                  | 314.43                | 364.06                | 201.03               | 298.14                | 283.48                | 70.63               | 191.03              | 137.73              | 201.20               | 216.11               | 229.59                         | 289.84                              |
| 17                                          | 370.63                  | 296.97                | 345.34                | 189.39               | 277.15                | 276.59                | 67.11               | 180.21              | 123.54              | 187.06               | 206.12               | 208.18                         | 262.70                              |
| 18                                          | 344.66                  | 284.03                | 330.23                | 177.36               | 262.42                | 277.52                | 63.62               | 169.98              | 113.68              | 176.77               | 199.72               | 196.17                         | 210.70                              |
| 19                                          | 321.91                  | 271.18                | 317.81                | 167.71               | 248.19                | 272.70                | 60.83               | 161.46              | 107.13              | 168.75               | 197.31               | 189.68                         | 221.27                              |
| 20                                          | 303.93                  | 264.22                | 306.78                | 158.92               | 236.80                | 260.02                | 58.41               | 153.96              | 103.19              | 162.55               | 189.55               | 184.77                         | 203.50                              |
| 21                                          | 285.80                  | 257.54                | 296.51                | 152.41               | 221.90                | 246.78                | 56.43               | 147.97              | 101.02              | 157.88               | 180.28               | 179.24                         | 191.33                              |
| 22                                          | 269.54                  | 249.61                | 286.18                | 146.60               | 212.12                | 239.73                | 54.58               | 143.23              | 100.16              | 154.83               | 175.81               | 173.94                         | 183.72                              |
| 23                                          | 257.20                  | 239.97                | 276.45                | 141.66               | 200.57                | 236.55                | 52.77               | 139.86              | 99.88               | 152.40               | 177.87               | 168.88                         | 178.18                              |
| 24                                          | 243.69                  | 231.59                | 267.46                | 137.99               | 191.59                | 231.32                | 51.12               | 137.71              | 100.04              | 150.85               | 174.58               | 164.36                         | 173.27                              |
| 25                                          | 232.03                  | 221.91                | 258.68                | 135.45               | 185.64                | 222.99                | 49.50               | 135.86              | 100.37              | 149.57               | 167.42               | 161.33                         | 168.91                              |
| 26                                          | 223.07                  | 219.11                | 249.31                | 134.20               | 181.34                | 213.33                | 48.09               | 134.86              | 100.56              | 148.57               | 164.71               | 159.02                         | 164.00                              |
| 27                                          | 213.03                  | 212.97                | 239.22                | 134.20               | 176.73                | 208.27                | 46.69               | 133.59              | 100.47              | 147.57               | 167.16               | 156.73                         | 159.62                              |
| 28                                          | 203.74                  | 209.23                | 228.16                | 133.71               | 172.71                | 204.48                | 45.35               | 132.59              | 100.54              | 146.84               | 167.57               | 154.47                         | 154.46                              |
| 29                                          | 198.37                  | 206.63                | 216.95                | 132.45               | 169.62                | 199.19                | 44.09               | 131.86              | 100.15              | 145.57               | 165.86               | 152.55                         | 149.54                              |
| 30                                          | 191.86                  | 204.58                | 206.04                | 131.21               | 167.40                | 193.09                | 42.83               | 131.40              | 99.77               | 143.78               | 162.80               | 150.34                         | 145.39                              |
| 31                                          | 184.84                  | 200.52                | 195.68                | 129.72               | 163.25                | 185.88                | 41.63               | 130.94              | 98.92               | 141.74               | 165.96               | 147.87                         | 140.86                              |
| 32                                          | 179.00                  | 195.58                | 186.23                | 128.00               | 158.87                | 178.66                | 40.49               | 129.94              | 97.77               | 139.47               | 166.02               | 145.72                         | 137.03                              |
| 33                                          | 172.33                  | 192.22                | 177.43                | 125.82               | 154.30                | 173.48                | 39.35               | 128.94              | 96.47               | 137.23               | 161.20               | 143.01                         | 134.06                              |
| 34                                          | 166.38                  | 186.67                | 169.23                | 123.90               | 149.90                | 170.88                | 38.21               | 127.41              | 94.88               | 135.27               | 156.89               | 140.68                         | 131.15                              |
| 35                                          | 161.38                  | 181.36                | 161.45                | 121.56               | 145.36                | 167.16                | 37.13               | 126.15              | 93.17               | 134.03               | 153.05               | 138.10                         | 128.09                              |
| 36                                          | 156.29                  | 178.70                | 154.20                | 119.69               | 142.21                | 160.64                | 36.04               | 124.64              | 91.47               | 133.27               | 152.98               | 135.05                         | 125.76                              |
| 37                                          | 151.14                  | 171.49                | 147.40                | 117.84               | 139.13                | 155.84                | 34.96               | 122.88              | 90.06               | 132.27               | 148.05               | 131.35                         | 123.25                              |
| 38                                          | 147.32                  | 171.17                | 141.16                | 116.42               | 135.37                | 150.61                | 33.92               | 120.89              | 88.66               | 131.50               | 145.32               | 127.78                         | 121.21                              |
| 39                                          | 142.84                  | 165.74                | 135.45                | 115.01               | 132.12                | 144.15                | 32.88               | 118.93              | 87.79               | 130.27               | 145.18               | 123.90                         | 118.79                              |
| 40                                          | 138.79                  | 159.88                | 129.98                | 113.20               | 129.03                | 140.87                | 31.92               | 116.53              | 87.31               | 128.81               | 142.21               | 121.20                         | 116.61                              |
| 41                                          | 135.36                  | 154.33                | 124.50                | 111.02               | 126.52                | 138.21                | 31.03               | 114.62              | 87.24               | 127.59               | 139.31               | 119.37                         | 113.71                              |
| 42                                          | 131.58                  | 148.76                | 118.88                | 108.51               | 124.29                | 136.40                | 30.17               | 113.17              | 87.31               | 126.36               | 138.04               | 117.97                         | 110.00                              |
| 43                                          | 128.80                  | 144.04                | 113.29                | 105.50               | 123.05                | 134.88                | 29.34               | 112.61              | 87.67               | 125.81               | 137.04               | 116.57                         | 105.94                              |
| 44                                          | 126.51                  | 138.74                | 107.88                | 102.42               | 120.88                | 134.14                | 28.55               | 112.95              | 87.35               | 125.03               | 132.98               | 113.82                         | 101.45                              |
| 45                                          | 123.43                  | 135.70                | 102.59                | 99.28                | 116.51                | 130.33                | 27.81               | 113.07              | 86.49               | 123.59               | 129.55               | 109.87                         | 96.80                               |
| 46                                          | 120.63                  | 133.22                | 97.40                 | 95.78                | 111.94                | 123.42                | 27.07               | 112.30              | 84.95               | 121.52               | 129.03               | 104.10                         | 92.44                               |
| 47                                          | 117.15                  | 128.68                | 92.24                 | 92.15                | 106.68                | 119.58                | 26.36               | 109.31              | 82.52               | 118.24               | 117.99               | 97.74                          | 88.46                               |
| 48                                          | 113.07                  | 124.35                | 87.41                 | 88.29                | 100.58                | 116.49                | 25.65               | 104.78              | 79.42               | 114.30               | 118.40               | 91.32                          | 84.92                               |
| 49                                          | 108.85                  | 119.41                | 82.89                 | 84.03                | 94.40                 | 107.21                | 24.90               | 99.22               | 75.78               | 109.81               | 111.26               | 85.86                          | 81.24                               |

\* See second footnote on p. 203.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

## MEASURE OF VITALITY.\*

TABLE 84

POPULATION AND DEATH STATISTICS, AND EXHIBITED HERE IN TABULAR FORM SO THAT A COMPARISON AT EACH AGE.

| AGE.                               | AUSTRALIA:<br>1901-1910 | DENMARK:<br>1906-1910 | ENGLAND:<br>1901-1910 | FRANCE:<br>1898-1903 | GERMANY:<br>1901-1910 | HOLLAND:<br>1900-1909 | INDIA:<br>1901-1910 | ITALY:<br>1901-1910 | JAPAN:<br>1898-1903 | NORWAY:<br>1901-1910 | SWEDEN:<br>1901-1910 | SWITZER-<br>LAND:<br>1901-1910 | UNITED<br>STATES:<br>1901-1910<br>† |
|------------------------------------|-------------------------|-----------------------|-----------------------|----------------------|-----------------------|-----------------------|---------------------|---------------------|---------------------|----------------------|----------------------|--------------------------------|-------------------------------------|
| 1                                  | 2                       | 3                     | 4                     | 5                    | 6                     | 7                     | 8                   | 9                   | 10                  | 11                   | 12                   | 13                             | 14                                  |
| MEASURE OF VITALITY, $\lambda_T$ . |                         |                       |                       |                      |                       |                       |                     |                     |                     |                      |                      |                                | FEMALES.                            |
| 50                                 | 104.07                  | 110.94                | 78.42                 | 70.92                | 88.24                 | 98.64                 | 21.14               | 93.26               | 71.91               | 105.22               | 109.36               | 50.46                          | 77.75                               |
| 51                                 | 99.72                   | 103.27                | 73.89                 | 75.87                | 81.64                 | 92.86                 | 23.41               | 87.38               | 68.06               | 100.74               | 103.97               | 75.72                          | 73.82                               |
| 52                                 | 94.32                   | 97.36                 | 69.16                 | 71.99                | 75.37                 | 88.05                 | 22.70               | 81.92               | 64.28               | 96.37                | 101.24               | 70.63                          | 69.27                               |
| 53                                 | 88.99                   | 91.33                 | 64.29                 | 68.19                | 70.58                 | 83.02                 | 22.02               | 77.17               | 60.61               | 91.87                | 94.45                | 65.94                          | 64.25                               |
| 54                                 | 83.37                   | 86.51                 | 59.56                 | 64.56                | 66.13                 | 78.90                 | 21.33               | 73.00               | 56.98               | 87.52                | 88.69                | 61.10                          | 59.49                               |
| 55                                 | 77.89                   | 83.79                 | 55.11                 | 60.75                | 61.22                 | 74.31                 | 20.61               | 68.74               | 53.50               | 83.23                | 83.12                | 56.58                          | 51.79                               |
| 56                                 | 72.45                   | 79.58                 | 51.07                 | 56.85                | 56.22                 | 67.95                 | 19.88               | 63.97               | 50.10               | 78.82                | 78.04                | 51.89                          | 50.59                               |
| 57                                 | 67.26                   | 74.85                 | 47.18                 | 52.71                | 51.58                 | 62.25                 | 19.15               | 58.50               | 46.72               | 74.54                | 74.31                | 47.55                          | 47.03                               |
| 58                                 | 61.75                   | 68.41                 | 44.34                 | 47.85                | 47.39                 | 58.03                 | 18.38               | 52.79               | 43.42               | 70.32                | 68.63                | 43.44                          | 41.13                               |
| 59                                 | 56.57                   | 62.77                 | 41.51                 | 44.21                | 43.57                 | 53.02                 | 17.61               | 47.37               | 40.28               | 65.97                | 65.29                | 39.81                          | 41.25                               |
| 60                                 | 51.60                   | 56.89                 | 38.88                 | 40.56                | 39.93                 | 47.69                 | 16.80               | 42.48               | 37.25               | 61.58                | 59.71                | 36.52                          | 38.66                               |
| 61                                 | 47.11                   | 51.62                 | 36.38                 | 37.27                | 36.24                 | 43.30                 | 16.02               | 38.17               | 34.35               | 57.12                | 55.58                | 33.38                          | 36.10                               |
| 62                                 | 43.03                   | 47.09                 | 33.95                 | 34.26                | 32.70                 | 39.73                 | 15.24               | 34.39               | 31.67               | 52.75                | 51.95                | 30.33                          | 33.42                               |
| 63                                 | 39.30                   | 42.76                 | 31.74                 | 31.57                | 29.70                 | 36.37                 | 14.46               | 31.24               | 29.12               | 48.55                | 47.18                | 27.43                          | 30.77                               |
| 64                                 | 35.93                   | 38.68                 | 29.75                 | 29.10                | 27.08                 | 33.17                 | 13.69               | 28.59               | 26.77               | 44.60                | 43.26                | 24.86                          | 28.44                               |
| 65                                 | 32.87                   | 34.97                 | 27.80                 | 26.80                | 24.76                 | 30.41                 | 12.94               | 26.14               | 24.58               | 40.95                | 39.63                | 22.60                          | 26.28                               |
| 66                                 | 30.05                   | 31.77                 | 25.78                 | 24.63                | 22.62                 | 27.70                 | 12.19               | 23.72               | 22.56               | 37.61                | 36.36                | 20.65                          | 24.33                               |
| 67                                 | 27.46                   | 28.63                 | 23.65                 | 22.43                | 20.60                 | 25.06                 | 11.47               | 21.33               | 20.70               | 31.50                | 32.89                | 18.91                          | 22.54                               |
| 68                                 | 25.02                   | 25.83                 | 21.40                 | 20.33                | 18.73                 | 22.61                 | 10.74               | 19.02               | 19.00               | 31.64                | 29.82                | 17.27                          | 20.85                               |
| 69                                 | 22.69                   | 23.49                 | 19.20                 | 18.38                | 17.12                 | 20.51                 | 10.05               | 16.94               | 17.42               | 28.96                | 27.14                | 15.77                          | 19.26                               |
| 70                                 | 20.43                   | 21.16                 | 17.22                 | 16.59                | 15.61                 | 18.83                 | 9.39                | 15.11               | 15.97               | 26.43                | 24.31                | 14.39                          | 17.77                               |
| 71                                 | 18.36                   | 19.16                 | 15.52                 | 14.97                | 14.12                 | 17.17                 | 8.75                | 13.52               | 14.64               | 24.05                | 22.49                | 13.16                          | 16.39                               |
| 72                                 | 16.49                   | 17.74                 | 14.12                 | 13.52                | 12.78                 | 15.47                 | 8.11                | 12.16               | 13.42               | 21.78                | 19.57                | 12.03                          | 15.10                               |
| 73                                 | 14.88                   | 16.31                 | 12.97                 | 12.25                | 11.67                 | 13.94                 | 7.49                | 11.01               | 12.30               | 19.67                | 18.07                | 10.97                          | 13.93                               |
| 74                                 | 13.52                   | 14.77                 | 11.96                 | 11.11                | 10.65                 | 12.80                 | 6.90                | 10.03               | 11.27               | 17.71                | 16.45                | 9.99                           | 12.84                               |
| 75                                 | 12.36                   | 13.38                 | 11.07                 | 10.08                | 9.68                  | 11.75                 | 6.35                | 9.14                | 10.37               | 15.97                | 14.42                | 9.11                           | 11.83                               |
| 76                                 | 11.36                   | 12.04                 | 10.25                 | 9.15                 | 8.85                  | 10.63                 | 5.81                | 8.31                | 9.53                | 14.43                | 13.06                | 8.35                           | 10.90                               |
| 77                                 | 10.49                   | 10.66                 | 9.49                  | 8.32                 | 8.10                  | 9.64                  | 5.31                | 7.52                | 8.77                | 13.07                | 11.50                | 7.67                           | 10.05                               |
| 78                                 | 9.70                    | 9.64                  | 8.79                  | 7.57                 | 7.40                  | 8.79                  | 4.79                | 6.75                | 8.06                | 11.89                | 10.87                | 7.07                           | 9.25                                |
| 79                                 | 8.99                    | 8.82                  | 8.14                  | 6.90                 | 6.83                  | 8.00                  | 4.38                | 6.05                | 7.40                | 10.83                | 9.54                 | 6.49                           | 8.47                                |
| 80                                 | 8.32                    | 7.90                  | 7.55                  | 6.32                 | 6.33                  | 7.32                  | 3.94                | 5.44                | 6.79                | 9.89                 | 8.64                 | 5.96                           | 7.69                                |
| 81                                 | 7.71                    | 7.20                  | 6.98                  | 5.85                 | 5.79                  | 6.78                  | 3.55                | 4.93                | 6.23                | 9.01                 | 7.78                 | 5.48                           | 6.99                                |
| 82                                 | 7.13                    | 6.65                  | 6.45                  | 5.41                 | 5.27                  | 6.24                  | 3.17                | 4.51                | 5.71                | 8.19                 | 7.13                 | 5.05                           | 6.42                                |
| 83                                 | 6.60                    | 6.07                  | 5.94                  | 5.01                 | 4.83                  | 5.68                  | 2.85                | 4.16                | 5.24                | 7.43                 | 6.40                 | 4.67                           | 5.97                                |
| 84                                 | 6.08                    | 5.65                  | 5.45                  | 4.64                 | 4.45                  | 5.19                  | 2.53                | 3.84                | 4.80                | 6.75                 | 5.69                 | 4.34                           | 5.53                                |
| 85                                 | 5.58                    | 5.37                  | 4.99                  | 4.34                 | 4.10                  | 4.81                  | 2.25                | 3.55                | 4.39                | 6.15                 | 5.26                 | 4.04                           | 5.10                                |
| 86                                 | 5.10                    | 4.97                  | 4.59                  | 4.18                 | 3.78                  | 4.47                  | 1.99                | 3.27                | 4.01                | 5.64                 | 4.78                 | 3.76                           | 4.72                                |
| 87                                 | 4.60                    | 4.49                  | 4.24                  | 4.04                 | 3.50                  | 4.13                  | 1.76                | 3.01                | 3.67                | 5.19                 | 4.36                 | 3.49                           | 4.39                                |
| 88                                 | 4.28                    | 3.96                  | 3.92                  | 3.91                 | 3.27                  | 3.83                  | 1.54                | 2.76                | 3.35                | 4.80                 | 4.03                 | 3.23                           | 4.10                                |
| 89                                 | 3.94                    | 3.56                  | 3.64                  | 3.78                 | 3.07                  | 3.63                  | 1.42                | 2.53                | 3.06                | 4.43                 | 3.70                 | 2.96                           | 3.81                                |
| 90                                 | 3.63                    | .....                 | 3.38                  | 3.66                 | 2.89                  | 3.20                  | 1.21                | 2.30                | 2.78                | 4.08                 | 3.45                 | 2.74                           | 3.55                                |
| 91                                 | 3.34                    | .....                 | 3.15                  | 3.54                 | 2.71                  | 2.84                  | 1.17                | 2.10                | 2.53                | 3.74                 | 3.21                 | 2.57                           | 3.31                                |
| 92                                 | 3.08                    | .....                 | 2.96                  | 3.43                 | 2.57                  | 2.36                  | 1.50                | 1.90                | 2.30                | 3.42                 | 2.92                 | 2.46                           | 3.09                                |
| 93                                 | 2.84                    | .....                 | 2.79                  | 3.32                 | 2.44                  | 2.00                  | .50                 | 1.71                | 2.09                | 3.13                 | 2.70                 | 2.37                           | 2.89                                |
| 94                                 | 2.63                    | .....                 | 2.65                  | 3.22                 | 2.30                  | 1.63                  | .....               | 1.58                | 1.87                | 2.90                 | 2.56                 | 2.18                           | 2.72                                |
| 95                                 | 2.43                    | .....                 | 2.52                  | 3.13                 | 2.22                  | 1.29                  | .....               | 1.41                | 1.72                | 2.71                 | 2.28                 | 1.98                           | 2.58                                |
| 96                                 | 2.24                    | .....                 | 2.41                  | 3.01                 | 2.12                  | 1.02                  | .....               | 1.32                | 1.53                | 2.54                 | 2.08                 | 1.83                           | 2.45                                |
| 97                                 | 2.07                    | .....                 | 2.30                  | 2.96                 | 2.05                  | .78                   | .....               | 1.30                | 1.39                | 2.40                 | 2.06                 | 1.60                           | 2.34                                |
| 98                                 | 1.90                    | .....                 | 2.20                  | 2.82                 | 1.97                  | .83                   | .....               | .83                 | 1.28                | 2.30                 | 2.04                 | 1.42                           | 2.24                                |
| 99                                 | 1.72                    | .....                 | 2.08                  | 2.69                 | 1.93                  | .50                   | .....               | .50                 | 1.25                | 2.17                 | 1.90                 | 1.33                           | 2.14                                |
| 100                                | 1.50                    | .....                 | 1.97                  | 2.61                 | .....                 | .....                 | .....               | .....               | 1.00                | 2.03                 | 1.78                 | 1.17                           | 2.04                                |

\* See second footnote on p. 203.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.



# MORTALITY TABLES BASED ON EXPERIENCE OF LIFE INSURANCE COMPANIES.

## DESCRIPTION OF TABLES.

90. Four of these tables are based on experience for the most part on insured lives in the United States, one on that in the United States and Canada, while five others are based on experience on insured lives in Great Britain, France, Germany, Japan, and Sweden, respectively; the life table for white males in the original registration states, 1910, is based on census statistics.

The American Experience Mortality Table was constructed by Sheppard Homans about 1860 and was first published under its present name in a schedule attached to an act passed by the legislature of the state of New York in 1868. It has for its basis the experience on insured lives in the Mutual Life Insurance Company, of New York, but it is not an accurate representation of the individual experience of that company. The table was intended to represent the death rate among insured lives residing in healthful districts after the effects of medical selection were eliminated. It is quite generally prescribed by state laws for valuation purposes and is employed by practically all the old-line companies in this country to calculate their premiums and reserves and also by the United States Government for insurance on soldiers.

The Thirty American Offices Tables were compiled by Levi W. Meech and are based upon the experience of thirty American life insurance companies on insured lives. The experience closed with the year 1874. The tables were prepared with great care and in considerable detail, but they have never been used to any extent by insurance companies. The table included in this volume is for males.

The most recent investigation of mortality rates based upon the experience of insured lives in the United States and Canada is known as the American-Canadian Mortality Investigation. It was conducted by the Actuarial Society of America, with the cooperation of the American Institute of Actuaries and the National Convention of Insurance Commissioners, and was based on the experience of life insurance companies of the United States and Canada during the years 1900 to 1915, inclusive, with policies issued from 1843 to 1914, inclusive. This investigation undoubtedly shows very closely the rates of mortality now existing among insured lives in this country and Canada.

The table included in this volume is for American men and represents the experience on men who had been insured at least five years. It is what is known as a "truncated" table of mortality, the first five years of insurance having been excluded from the observations used in its construction. The result of excluding the first five years of insurance experience is practically to eliminate the effect of medical selection. The rates of mortality by this table are much lower than those shown by the American Experience or the Thirty American Offices Life Table for nearly all ages.

The symbol for the American-Canadian Table included in this volume is  $AM^{(s)}$ ; the  $AM$  denotes

American Men, and the superscript  $(s)$  denotes that it is a truncated table based on insured lives where the first five insurance years are excluded.

The British Offices Life Tables were prepared under the supervision of a joint committee of the Institute of Actuaries of Great Britain and the Faculty of Actuaries of Scotland. They comprise the experience of practically all the British and Scotch companies on insured lives during the period 1863-1893. The table included herein is based upon the experience with whole life participating insurance on men, and the symbol used to designate it is  $O^{M(s)}$ . The superscript  $(s)$  indicates that it is a truncated table, policies of duration of less than five years having been excluded from the observations used in its construction. This table is quite generally employed by life insurance companies in England and Canada for the calculation of premiums and reserves.

The Four French Offices Mortality Experience is based on the experience on insured lives in four French companies, and the observations extended from 1819 to the end of 1887. It includes the experience on both male and female lives, and is used at the present time by French insurance companies for the calculation of premiums and reserves. It is designated by the symbol  $AF$ , the  $A$  referring to Assurance and the  $F$  to French, the combination meaning French insurance. This table runs very near the British Offices Life Table from age 17 to about age 45, after which it shows higher mortality rates.

The Twenty-three German Offices Life Tables are based upon the experience on insured lives of twenty-three German life insurance companies. The experience closed in 1875 and included tables for male lives, female lives, and for both sexes combined. The table included in this volume and used by German life insurance companies is the one based on the combined experience on men and women. It shows rates of mortality considerably above those in the American Experience, American-Canadian, British Offices, and French Offices Tables.

The Three Japanese Offices Life Tables are based upon the experience on insured lives in three Japanese companies, the Neiji, established in 1881; the Teikoku, established in 1888; and the Nippon, established in 1888. The observations covered all their insured risks from date of organization to the close of 1905, with some exceptions in connection with military service and emigrants. The table included herein is based on the experience on insured Japanese men and is designated by the symbol  $J^{M(s)}$ . This indicates that it is a truncated table for Japanese males, the first five years of insurance experience having been excluded. This table is used by Japanese companies for the calculation of premiums and reserves. It shows a much higher mortality than any of the other insurance tables for most ages.

The Seventeen Swedish Offices Life Tables are based on insured lives from 1895 to 1906 in seventeen Swed-

ish life insurance companies. Numerous tables were constructed from this experience, some based on the medical examination as the unit, some on the amount insured as the unit, and some on the life insured. The table included is based on male lives, the person or life being the unit. It also includes the aggregate experience; in other words, it is not a truncated table. The symbol for this table is  $M_a^b$ ; M means that the table relates to men; the subscript  $a$  means that it is an aggregate table, including all years of insurance experience; the superscript  $b$ , that the person or life is the unit; and the superscript  $c$ , that the table in question is based on the entire experience on men and not on any special class of policies, as whole life policies alone or endowment policies alone.

The National Fraternal Congress Table of Mortality was prepared in 1898 by a joint committee appointed by the National Fraternal Congress, a representative association of fraternal societies in this country. According to the committee, "the experience examined and available embraced the mortality experience of old-line companies in the United States, England, Canada, and Australia; of the fraternal societies, the experience of the two oldest and largest in this country." This table is employed by many fraternal societies in this country as a basis for their assessment rates and to measure the present value of benefits promised in their certificates and the present value of the future contributions of their members. The rates of mortality are between those of the American-Canadian and the American Experience from age 20 to age 49, but from age 50 to age 80 they are lower than the rates in both these tables.

The Standard Industrial Mortality Table is based on the industrial insurance experience of the Metropolitan Life during the ten years 1896-1905. It has been adopted as the legal basis for industrial insurance in the state of New York and is employed by most of the industrial companies as a basis for their premiums and reserves. It is based on the entire experience on all the male lives and is an aggregate table, no insurance years having been excluded. The rates of mortality from age 2 to age 20 are somewhat higher than those in most of the census life tables and from age 30 to age 50 much higher than those in the other insurance tables; from age 50 to age 93 they run very close to those in the Three Japanese Offices Tables.

#### MORTALITY FUNCTIONS APPEARING IN TABLES AND GRAPHS.

91. Tables 85 to 89 on pages 226 to 235 exhibit the rate of mortality per thousand, the number of survivors out of 79,116 alive at age 20, the number of deaths out of 79,116 alive at age 20, the complete expectation of life,\* and the measure of vitality.† The common radix, 79,116, is the number of survivors at age 20 in the life table for white males in the original

registration states for 1910, and was chosen in order to compare the number of survivors and number of deaths in the various insurance tables. Tables 90 and 91 on pages 236 to 239 show the number of survivors and number of deaths out of the number alive according to the original radix of each table. (See sec. 77, p. 46.)

#### DIFFERENCE BETWEEN MORTALITY TABLES BASED ON INSURED LIVES AND LIFE TABLES BASED ON CENSUS STATISTICS.

92. It is shown in Part VI on the Mathematical Theory of Construction of Life Tables that the rates of mortality in the life tables are derived by the application of certain formulas to the original census statistics, that is, to the enumerated populations, the reported deaths, and the birth registration statistics. All persons living are taken into account, as well as all the births and deaths. The case is quite different in the construction of mortality tables based on insured lives. The individual does not come under observation until accepted as a risk by the insurance company. Before the policy is issued the applicant is required to pass a satisfactory medical examination, and this constitutes the chief distinction between the aggregate of policyholders in an insurance company and the aggregate of persons in the general unselected population. The former is said to constitute a selected group, the basis of selection being the medical examination. It has been found that the rates of mortality during the first five insurance years among insured lives are much lower than the rates of mortality at the same ages in the general population, and actuaries have shown that the effect of this medical selection does not entirely pass away until after ten or more years; some actuaries contend that its effect never entirely disappears. The effect of medical selection should be borne in mind when comparing insurance tables with census tables.

Attention has been called to some of the mortality tables which were constructed by excluding the first five insurance years from the observations, and it is evident that the truncated tables so obtained are more nearly comparable with census life tables because the effect of medical selection has been eliminated to some extent. Even in these cases, however, great caution should be used in making comparisons, because the composition of the general population is likely to be quite different from that of the policyholders in an insurance company. It should also be remembered, in comparing insurance tables, that they are not based on the same kind of experience; for example, some are aggregate tables, some truncated tables, some based on male lives, some on male and female lives, some based on the class of policyholders who take industrial insurance, and others on the class of policyholders who take the more expensive forms of insurance. In addition to all these varying factors some of the tables are based on insured lives in different countries.

\* The complete expectation of life for the Seventeen Swedish Offices Life Tables and for the Standard Industrial Mortality Tables was computed in the Bureau of the Census according to the formula  $\frac{1}{d_x} + \left( \sum_{t=1}^{\infty} l_{x+t} \right) / l_x$ . The  $l_x$  used to compute these values were taken from Table 90, p. 236.

† The measure of vitality for the ten tables based on insured lives was computed in the Bureau of the Census according to the formula  $l_x / d_x - \frac{1}{2}$ . The  $l_x$  and  $d_x$  used to compute the values in Table 89, p. 234, were taken from Tables 90 and 91, respectively, pp. 236 to 239. Those for the United States were taken from Table 9, p. 68.

## UNITED STATES LIFE TABLES.

TABLE 85

INSURED LIVES. ANNUAL RATES

BASED ON MORTALITY TABLES DERIVED FROM THE EXPERIENCE OF LIFE INSURANCE COMPANIES IN VARIOUS  
MALES IN THE ORIGINAL

| AGE.                                                        | American<br>Experience<br>Mortality<br>Table:<br>1860.<br>* | Thirty<br>American<br>Offices Life<br>Tables:<br>1874.<br>Males.<br>* | American-<br>Canadian<br>Mortality<br>Investigation:<br>1900-1915.<br>American<br>men.<br>AM(9) | British<br>Offices Life<br>Tables:<br>1863-1893.<br>Males.<br>O(9) | Four French<br>Offices<br>Mortality<br>Experience:<br>1819-1897.<br>Males and<br>females.<br>AF | Twenty-three<br>German<br>Offices Life<br>Tables:<br>1875.<br>Males and<br>females. | Three<br>Japanese<br>Offices Life<br>Tables:<br>1905.<br>Males.<br>JM(9) | Seventeen<br>Swedish<br>Offices Life<br>Tables:<br>1895-1906.<br>Aggregate<br>males.<br>PM <sup>b</sup> <sub>17</sub> | National<br>Fraternal<br>Congress<br>Mortality<br>Table:<br>1898. | Standard<br>Industrial<br>Mortality<br>Table:<br>1896-1905.<br>Males.<br>* | United<br>States.<br>Original<br>Registration<br>States:<br>1909-1911.<br>White<br>males.<br>† |
|-------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| 1                                                           | 2                                                           | 3                                                                     | 4                                                                                               | 5                                                                  | 6                                                                                               | 7                                                                                   | 8                                                                        | 9                                                                                                                     | 10                                                                | 11                                                                         | 12                                                                                             |
| ANNUAL RATE OF MORTALITY PER THOUSAND, 1000q <sub>x</sub> . |                                                             |                                                                       |                                                                                                 |                                                                    |                                                                                                 |                                                                                     |                                                                          |                                                                                                                       |                                                                   |                                                                            |                                                                                                |
| 0                                                           |                                                             |                                                                       |                                                                                                 |                                                                    | 36.02                                                                                           |                                                                                     |                                                                          |                                                                                                                       |                                                                   |                                                                            | 123.26                                                                                         |
| 1                                                           |                                                             |                                                                       |                                                                                                 |                                                                    | 27.49                                                                                           |                                                                                     |                                                                          |                                                                                                                       |                                                                   |                                                                            | 28.21                                                                                          |
| 2                                                           |                                                             |                                                                       |                                                                                                 |                                                                    | 20.85                                                                                           |                                                                                     |                                                                          |                                                                                                                       |                                                                   | 34.67                                                                      | 12.73                                                                                          |
| 3                                                           |                                                             |                                                                       |                                                                                                 |                                                                    | 15.75                                                                                           |                                                                                     |                                                                          |                                                                                                                       |                                                                   | 22.47                                                                      | 7.93                                                                                           |
| 4                                                           |                                                             |                                                                       |                                                                                                 |                                                                    | 11.87                                                                                           |                                                                                     |                                                                          |                                                                                                                       |                                                                   | 13.23                                                                      | 5.72                                                                                           |
| 5                                                           |                                                             |                                                                       |                                                                                                 |                                                                    | 8.97                                                                                            |                                                                                     |                                                                          |                                                                                                                       |                                                                   | 9.16                                                                       | 4.71                                                                                           |
| 6                                                           |                                                             |                                                                       |                                                                                                 |                                                                    | 6.87                                                                                            |                                                                                     |                                                                          |                                                                                                                       |                                                                   | 7.20                                                                       | 4.00                                                                                           |
| 7                                                           |                                                             |                                                                       |                                                                                                 |                                                                    | 5.40                                                                                            |                                                                                     |                                                                          |                                                                                                                       |                                                                   | 5.95                                                                       | 3.40                                                                                           |
| 8                                                           |                                                             |                                                                       |                                                                                                 |                                                                    | 4.43                                                                                            |                                                                                     |                                                                          |                                                                                                                       |                                                                   | 4.89                                                                       | 2.93                                                                                           |
| 9                                                           |                                                             |                                                                       |                                                                                                 |                                                                    | 3.88                                                                                            |                                                                                     |                                                                          |                                                                                                                       |                                                                   | 4.06                                                                       | 2.59                                                                                           |
| 10                                                          | 7.49                                                        | 6.48                                                                  |                                                                                                 | 6.13                                                               | 3.64                                                                                            |                                                                                     | 7.03                                                                     |                                                                                                                       |                                                                   | 3.44                                                                       | 2.38                                                                                           |
| 11                                                          | 7.52                                                        | 6.50                                                                  |                                                                                                 | 6.17                                                               | 3.66                                                                                            |                                                                                     | 7.15                                                                     |                                                                                                                       |                                                                   | 3.05                                                                       | 2.28                                                                                           |
| 12                                                          | 7.54                                                        | 6.52                                                                  |                                                                                                 | 6.19                                                               | 3.87                                                                                            |                                                                                     | 7.36                                                                     |                                                                                                                       |                                                                   | 2.88                                                                       | 2.29                                                                                           |
| 13                                                          | 7.57                                                        | 6.54                                                                  |                                                                                                 | 6.22                                                               | 4.22                                                                                            |                                                                                     | 7.64                                                                     |                                                                                                                       |                                                                   | 2.91                                                                       | 2.41                                                                                           |
| 14                                                          | 7.60                                                        | 6.57                                                                  |                                                                                                 | 6.25                                                               | 4.66                                                                                            |                                                                                     | 8.05                                                                     |                                                                                                                       |                                                                   | 3.17                                                                       | 2.59                                                                                           |
| 15                                                          | 7.63                                                        | 6.59                                                                  | 3.46                                                                                            | 6.29                                                               | 5.15                                                                                            |                                                                                     | 8.62                                                                     | 2.77                                                                                                                  |                                                                   | 3.58                                                                       | 2.83                                                                                           |
| 16                                                          | 7.66                                                        | 6.61                                                                  | 3.53                                                                                            | 6.33                                                               | 5.65                                                                                            |                                                                                     | 9.32                                                                     | 2.81                                                                                                                  |                                                                   | 4.11                                                                       | 3.15                                                                                           |
| 17                                                          | 7.69                                                        | 6.65                                                                  | 3.63                                                                                            | 6.38                                                               | 6.10                                                                                            | 8.86                                                                                | 10.11                                                                    | 2.86                                                                                                                  |                                                                   | 4.78                                                                       | 3.55                                                                                           |
| 18                                                          | 7.73                                                        | 6.68                                                                  | 3.71                                                                                            | 6.42                                                               | 6.48                                                                                            | 9.20                                                                                | 10.89                                                                    | 2.91                                                                                                                  |                                                                   | 5.50                                                                       | 3.98                                                                                           |
| 19                                                          | 7.77                                                        | 6.72                                                                  | 3.81                                                                                            | 6.46                                                               | 6.75                                                                                            | 9.34                                                                                | 11.56                                                                    | 2.96                                                                                                                  |                                                                   | 6.21                                                                       | 4.42                                                                                           |
| 20                                                          | 7.81                                                        | 6.76                                                                  | 3.92                                                                                            | 6.52                                                               | 6.90                                                                                            | 9.20                                                                                | 11.99                                                                    | 3.02                                                                                                                  | 5.00                                                              | 6.91                                                                       | 4.89                                                                                           |
| 21                                                          | 7.86                                                        | 6.81                                                                  | 4.02                                                                                            | 6.59                                                               | 6.92                                                                                            | 9.17                                                                                | 12.15                                                                    | 3.09                                                                                                                  | 5.01                                                              | 7.56                                                                       | 5.24                                                                                           |
| 22                                                          | 7.91                                                        | 6.86                                                                  | 4.12                                                                                            | 6.65                                                               | 6.81                                                                                            | 9.03                                                                                | 11.98                                                                    | 3.16                                                                                                                  | 5.07                                                              | 8.15                                                                       | 5.39                                                                                           |
| 23                                                          | 7.96                                                        | 6.91                                                                  | 4.18                                                                                            | 6.72                                                               | 6.62                                                                                            | 8.84                                                                                | 11.54                                                                    | 3.24                                                                                                                  | 5.11                                                              | 8.64                                                                       | 5.42                                                                                           |
| 24                                                          | 8.01                                                        | 6.97                                                                  | 4.25                                                                                            | 6.80                                                               | 6.41                                                                                            | 8.66                                                                                | 10.92                                                                    | 3.33                                                                                                                  | 5.15                                                              | 9.09                                                                       | 5.48                                                                                           |
| 25                                                          | 8.07                                                        | 7.03                                                                  | 4.31                                                                                            | 6.89                                                               | 6.28                                                                                            | 8.54                                                                                | 10.24                                                                    | 3.42                                                                                                                  | 5.20                                                              | 9.53                                                                       | 5.54                                                                                           |
| 26                                                          | 8.13                                                        | 7.12                                                                  | 4.35                                                                                            | 6.98                                                               | 6.40                                                                                            | 8.48                                                                                | 9.56                                                                     | 3.52                                                                                                                  | 5.26                                                              | 9.94                                                                       | 5.63                                                                                           |
| 27                                                          | 8.20                                                        | 7.19                                                                  | 4.39                                                                                            | 7.09                                                               | 6.53                                                                                            | 8.48                                                                                | 9.03                                                                     | 3.64                                                                                                                  | 5.32                                                              | 10.35                                                                      | 5.82                                                                                           |
| 28                                                          | 8.26                                                        | 7.28                                                                  | 4.41                                                                                            | 7.21                                                               | 6.67                                                                                            | 8.54                                                                                | 8.60                                                                     | 3.78                                                                                                                  | 5.39                                                              | 10.81                                                                      | 6.07                                                                                           |
| 29                                                          | 8.35                                                        | 7.39                                                                  | 4.43                                                                                            | 7.32                                                               | 6.82                                                                                            | 8.67                                                                                | 8.36                                                                     | 3.89                                                                                                                  | 5.47                                                              | 11.24                                                                      | 6.33                                                                                           |
| 30                                                          | 8.43                                                        | 7.49                                                                  | 4.46                                                                                            | 7.47                                                               | 6.98                                                                                            | 8.83                                                                                | 8.20                                                                     | 4.04                                                                                                                  | 5.55                                                              | 11.60                                                                      | 6.60                                                                                           |
| 31                                                          | 8.51                                                        | 7.60                                                                  | 4.48                                                                                            | 7.62                                                               | 7.17                                                                                            | 9.01                                                                                | 8.12                                                                     | 4.20                                                                                                                  | 5.65                                                              | 11.97                                                                      | 6.93                                                                                           |
| 32                                                          | 8.61                                                        | 7.73                                                                  | 4.51                                                                                            | 7.77                                                               | 7.36                                                                                            | 9.23                                                                                | 8.10                                                                     | 4.38                                                                                                                  | 5.75                                                              | 12.26                                                                      | 7.31                                                                                           |
| 33                                                          | 8.72                                                        | 7.87                                                                  | 4.59                                                                                            | 7.96                                                               | 7.58                                                                                            | 9.45                                                                                | 8.10                                                                     | 4.57                                                                                                                  | 5.87                                                              | 12.49                                                                      | 7.70                                                                                           |
| 34                                                          | 8.83                                                        | 8.03                                                                  | 4.68                                                                                            | 8.16                                                               | 7.81                                                                                            | 9.70                                                                                | 8.14                                                                     | 4.78                                                                                                                  | 6.00                                                              | 12.74                                                                      | 8.10                                                                                           |
| 35                                                          | 8.95                                                        | 8.21                                                                  | 4.78                                                                                            | 8.37                                                               | 8.07                                                                                            | 9.98                                                                                | 8.18                                                                     | 5.01                                                                                                                  | 6.15                                                              | 12.99                                                                      | 8.52                                                                                           |
| 36                                                          | 9.09                                                        | 8.39                                                                  | 4.94                                                                                            | 8.60                                                               | 8.35                                                                                            | 10.27                                                                               | 8.31                                                                     | 5.26                                                                                                                  | 6.31                                                              | 13.22                                                                      | 8.90                                                                                           |
| 37                                                          | 9.23                                                        | 8.59                                                                  | 5.12                                                                                            | 8.86                                                               | 8.66                                                                                            | 10.59                                                                               | 8.53                                                                     | 5.53                                                                                                                  | 6.49                                                              | 13.53                                                                      | 9.23                                                                                           |
| 38                                                          | 9.41                                                        | 8.83                                                                  | 5.32                                                                                            | 9.15                                                               | 8.99                                                                                            | 10.95                                                                               | 8.86                                                                     | 5.83                                                                                                                  | 6.70                                                              | 13.87                                                                      | 9.54                                                                                           |
| 39                                                          | 9.59                                                        | 9.08                                                                  | 5.56                                                                                            | 9.45                                                               | 9.36                                                                                            | 11.33                                                                               | 9.32                                                                     | 6.16                                                                                                                  | 6.92                                                              | 14.23                                                                      | 9.87                                                                                           |
| 40                                                          | 9.79                                                        | 9.36                                                                  | 5.84                                                                                            | 9.78                                                               | 9.75                                                                                            | 11.77                                                                               | 9.92                                                                     | 6.52                                                                                                                  | 7.17                                                              | 14.65                                                                      | 10.22                                                                                          |
| 41                                                          | 10.01                                                       | 9.65                                                                  | 6.16                                                                                            | 10.15                                                              | 10.19                                                                                           | 12.29                                                                               | 10.67                                                                    | 6.92                                                                                                                  | 7.45                                                              | 15.09                                                                      | 10.60                                                                                          |
| 42                                                          | 10.25                                                       | 10.00                                                                 | 6.54                                                                                            | 10.56                                                              | 10.66                                                                                           | 12.79                                                                               | 11.56                                                                    | 7.34                                                                                                                  | 7.77                                                              | 15.57                                                                      | 11.04                                                                                          |
| 43                                                          | 10.52                                                       | 10.35                                                                 | 6.94                                                                                            | 10.99                                                              | 11.18                                                                                           | 13.32                                                                               | 12.56                                                                    | 7.81                                                                                                                  | 8.11                                                              | 16.11                                                                      | 11.52                                                                                          |
| 44                                                          | 10.83                                                       | 10.76                                                                 | 7.42                                                                                            | 11.46                                                              | 11.74                                                                                           | 13.85                                                                               | 13.66                                                                    | 8.33                                                                                                                  | 8.48                                                              | 16.71                                                                      | 12.05                                                                                          |
| 45                                                          | 11.16                                                       | 11.20                                                                 | 7.94                                                                                            | 12.00                                                              | 12.36                                                                                           | 14.37                                                                               | 14.85                                                                    | 8.89                                                                                                                  | 8.87                                                              | 17.35                                                                      | 12.64                                                                                          |
| 46                                                          | 11.56                                                       | 11.69                                                                 | 8.52                                                                                            | 12.56                                                              | 13.03                                                                                           | 14.89                                                                               | 16.10                                                                    | 9.50                                                                                                                  | 9.29                                                              | 18.07                                                                      | 13.25                                                                                          |
| 47                                                          | 12.00                                                       | 12.23                                                                 | 9.18                                                                                            | 13.20                                                              | 13.76                                                                                           | 15.50                                                                               | 17.41                                                                    | 10.17                                                                                                                 | 9.75                                                              | 18.82                                                                      | 13.83                                                                                          |
| 48                                                          | 12.51                                                       | 12.81                                                                 | 9.89                                                                                            | 13.88                                                              | 14.56                                                                                           | 16.21                                                                               | 18.79                                                                    | 10.91                                                                                                                 | 10.27                                                             | 19.69                                                                      | 14.37                                                                                          |
| 49                                                          | 13.11                                                       | 13.46                                                                 | 10.70                                                                                           | 14.63                                                              | 15.43                                                                                           | 17.06                                                                               | 20.24                                                                    | 11.71                                                                                                                 | 10.82                                                             | 20.62                                                                      | 14.95                                                                                          |

\* 1000q<sub>x</sub> was copied to the nearest second decimal.

† The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

## OF MORTALITY PER THOUSAND.

TABLE 85

COUNTRIES; ALSO THE RATE OF MORTALITY PER THOUSAND TAKEN FROM THE LIFE TABLE FOR WHITE REGISTRATION STATES: 1910.

| AGE.                                                        | American<br>Experience<br>Mortality<br>Table:<br>1860.<br>* | Thirty<br>American<br>Offices Life<br>Tables:<br>1871.<br>Males.<br>* | American-<br>Canadian<br>Mortality<br>Investigation:<br>1900-1915.<br>American<br>men.<br>AM (2) | British<br>Offices Life<br>Tables:<br>1863-1893.<br>Males.<br>OM (2) | Four French<br>Offices<br>Mortality<br>Experience:<br>1819-1887.<br>Males and<br>females.<br>AF | Twenty-three<br>German<br>Offices Life<br>Tables:<br>1875.<br>Males and<br>females. | Three<br>Japanese<br>Offices Life<br>Tables:<br>1905.<br>Males.<br>JM (2) | Seventeen<br>Swedish<br>Offices Life<br>Tables:<br>1895-1906.<br>Aggregate<br>males.<br>PM (2) | National<br>Fraternal<br>Congress<br>Mortality<br>Table:<br>1898. | Standard<br>Industrial<br>Mortality<br>Table:<br>1896-1905.<br>Males.<br>* | United<br>States.<br>Original<br>Registration<br>States:<br>1909-1911.<br>White<br>males.<br>† |
|-------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| 1                                                           | 2                                                           | 3                                                                     | 4                                                                                                | 5                                                                    | 6                                                                                               | 7                                                                                   | 8                                                                         | 9                                                                                              | 10                                                                | 11                                                                         | 12                                                                                             |
| ANNUAL RATE OF MORTALITY PER THOUSAND, 1000q <sub>x</sub> . |                                                             |                                                                       |                                                                                                  |                                                                      |                                                                                                 |                                                                                     |                                                                           |                                                                                                |                                                                   |                                                                            |                                                                                                |
| 50                                                          | 13.78                                                       | 14.18                                                                 | 11.58                                                                                            | 15.45                                                                | 16.38                                                                                           | 18.14                                                                               | 21.71                                                                     | 12.59                                                                                          | 11.44                                                             | 21.64                                                                      | 15.53                                                                                          |
| 51                                                          | 14.51                                                       | 14.96                                                                 | 12.54                                                                                            | 16.34                                                                | 17.42                                                                                           | 19.31                                                                               | 23.19                                                                     | 13.55                                                                                          | 12.15                                                             | 22.77                                                                      | 16.24                                                                                          |
| 52                                                          | 15.39                                                       | 15.81                                                                 | 13.62                                                                                            | 17.31                                                                | 18.55                                                                                           | 20.61                                                                               | 24.70                                                                     | 14.60                                                                                          | 12.90                                                             | 24.02                                                                      | 17.21                                                                                          |
| 53                                                          | 16.33                                                       | 16.75                                                                 | 14.78                                                                                            | 18.39                                                                | 19.78                                                                                           | 21.99                                                                               | 26.29                                                                     | 15.75                                                                                          | 13.75                                                             | 25.34                                                                      | 18.45                                                                                          |
| 54                                                          | 17.40                                                       | 17.78                                                                 | 16.08                                                                                            | 19.56                                                                | 21.12                                                                                           | 23.49                                                                               | 28.02                                                                     | 17.00                                                                                          | 14.68                                                             | 26.83                                                                      | 19.85                                                                                          |
| 55                                                          | 18.57                                                       | 18.93                                                                 | 17.47                                                                                            | 20.83                                                                | 22.59                                                                                           | 25.05                                                                               | 30.04                                                                     | 18.37                                                                                          | 15.71                                                             | 28.46                                                                      | 21.50                                                                                          |
| 56                                                          | 19.89                                                       | 20.17                                                                 | 19.02                                                                                            | 22.22                                                                | 24.20                                                                                           | 26.80                                                                               | 32.36                                                                     | 19.88                                                                                          | 16.86                                                             | 30.21                                                                      | 23.30                                                                                          |
| 57                                                          | 21.34                                                       | 21.56                                                                 | 20.69                                                                                            | 23.75                                                                | 25.92                                                                                           | 28.67                                                                               | 35.07                                                                     | 21.52                                                                                          | 18.12                                                             | 32.20                                                                      | 25.08                                                                                          |
| 58                                                          | 22.94                                                       | 23.06                                                                 | 22.51                                                                                            | 25.41                                                                | 27.82                                                                                           | 30.73                                                                               | 38.09                                                                     | 23.31                                                                                          | 19.50                                                             | 34.32                                                                      | 26.81                                                                                          |
| 59                                                          | 24.72                                                       | 24.71                                                                 | 24.49                                                                                            | 27.22                                                                | 29.88                                                                                           | 32.89                                                                               | 41.40                                                                     | 25.27                                                                                          | 21.05                                                             | 36.66                                                                      | 28.71                                                                                          |
| 60                                                          | 26.69                                                       | 26.53                                                                 | 26.68                                                                                            | 29.21                                                                | 32.13                                                                                           | 35.36                                                                               | 44.90                                                                     | 27.42                                                                                          | 22.75                                                             | 39.22                                                                      | 30.75                                                                                          |
| 61                                                          | 28.88                                                       | 28.53                                                                 | 29.03                                                                                            | 31.38                                                                | 34.58                                                                                           | 37.82                                                                               | 48.54                                                                     | 29.76                                                                                          | 24.64                                                             | 42.03                                                                      | 32.95                                                                                          |
| 62                                                          | 31.29                                                       | 30.70                                                                 | 31.58                                                                                            | 33.73                                                                | 37.25                                                                                           | 40.42                                                                               | 52.08                                                                     | 32.33                                                                                          | 26.72                                                             | 45.09                                                                      | 35.41                                                                                          |
| 63                                                          | 33.91                                                       | 33.11                                                                 | 34.37                                                                                            | 36.32                                                                | 40.15                                                                                           | 43.17                                                                               | 55.32                                                                     | 35.13                                                                                          | 29.03                                                             | 48.44                                                                      | 38.09                                                                                          |
| 64                                                          | 36.87                                                       | 35.74                                                                 | 37.38                                                                                            | 39.12                                                                | 43.31                                                                                           | 46.13                                                                               | 58.26                                                                     | 38.20                                                                                          | 31.57                                                             | 52.11                                                                      | 40.88                                                                                          |
| 65                                                          | 40.13                                                       | 38.64                                                                 | 40.66                                                                                            | 42.21                                                                | 46.74                                                                                           | 49.43                                                                               | 60.84                                                                     | 41.56                                                                                          | 34.39                                                             | 56.13                                                                      | 43.79                                                                                          |
| 66                                                          | 43.71                                                       | 41.79                                                                 | 44.18                                                                                            | 45.54                                                                | 50.48                                                                                           | 53.29                                                                               | 63.43                                                                     | 45.22                                                                                          | 37.52                                                             | 60.53                                                                      | 46.87                                                                                          |
| 67                                                          | 47.65                                                       | 45.28                                                                 | 48.03                                                                                            | 49.18                                                                | 54.55                                                                                           | 57.62                                                                               | 66.39                                                                     | 49.23                                                                                          | 40.96                                                             | 65.31                                                                      | 50.23                                                                                          |
| 68                                                          | 52.00                                                       | 49.04                                                                 | 52.16                                                                                            | 53.17                                                                | 58.96                                                                                           | 62.26                                                                               | 70.35                                                                     | 53.62                                                                                          | 44.78                                                             | 70.53                                                                      | 53.92                                                                                          |
| 69                                                          | 56.76                                                       | 53.24                                                                 | 56.64                                                                                            | 57.48                                                                | 63.76                                                                                           | 67.31                                                                               | 73.77                                                                     | 58.41                                                                                          | 48.98                                                             | 76.22                                                                      | 57.88                                                                                          |
| 70                                                          | 61.99                                                       | 57.78                                                                 | 61.47                                                                                            | 62.19                                                                | 68.97                                                                                           | 72.76                                                                               | 82.83                                                                     | 63.66                                                                                          | 53.65                                                             | 82.47                                                                      | 62.14                                                                                          |
| 71                                                          | 67.67                                                       | 62.78                                                                 | 66.70                                                                                            | 67.31                                                                | 74.62                                                                                           | 78.56                                                                               | 91.47                                                                     | 69.39                                                                                          | 58.81                                                             | 89.26                                                                      | 66.90                                                                                          |
| 72                                                          | 73.73                                                       | 68.22                                                                 | 72.33                                                                                            | 72.90                                                                | 80.76                                                                                           | 84.50                                                                               | 101.32                                                                    | 75.66                                                                                          | 64.49                                                             | 96.66                                                                      | 72.30                                                                                          |
| 73                                                          | 80.18                                                       | 74.15                                                                 | 78.39                                                                                            | 78.96                                                                | 87.41                                                                                           | 91.30                                                                               | 111.84                                                                    | 82.51                                                                                          | 70.81                                                             | 104.69                                                                     | 78.33                                                                                          |
| 74                                                          | 87.03                                                       | 80.71                                                                 | 84.92                                                                                            | 85.53                                                                | 91.61                                                                                           | 98.54                                                                               | 122.63                                                                    | 90.01                                                                                          | 77.78                                                             | 113.40                                                                     | 84.99                                                                                          |
| 75                                                          | 94.37                                                       | 87.79                                                                 | 91.94                                                                                            | 92.67                                                                | 102.41                                                                                          | 106.49                                                                              | 133.35                                                                    | 98.20                                                                                          | 85.48                                                             | 122.97                                                                     | 92.53                                                                                          |
| 76                                                          | 102.31                                                      | 95.50                                                                 | 99.51                                                                                            | 100.43                                                               | 110.85                                                                                          | 114.51                                                                              | 143.94                                                                    | 107.17                                                                                         | 93.99                                                             | 133.28                                                                     | 100.34                                                                                         |
| 77                                                          | 111.06                                                      | 104.00                                                                | 107.65                                                                                           | 108.83                                                               | 119.97                                                                                          | 123.12                                                                              | 154.42                                                                    | 116.97                                                                                         | 103.40                                                            | 144.44                                                                     | 108.01                                                                                         |
| 78                                                          | 120.83                                                      | 113.18                                                                | 116.31                                                                                           | 117.94                                                               | 129.82                                                                                          | 132.33                                                                              | 165.43                                                                    | 127.68                                                                                         | 113.83                                                            | 156.57                                                                     | 115.88                                                                                         |
| 79                                                          | 131.73                                                      | 123.19                                                                | 125.69                                                                                           | 127.81                                                               | 140.45                                                                                          | 142.19                                                                              | 177.27                                                                    | 139.40                                                                                         | 123.35                                                            | 169.62                                                                     | 124.98                                                                                         |
| 80                                                          | 144.47                                                      | 131.07                                                                | 135.74                                                                                           | 138.50                                                               | 151.90                                                                                          | 155.14                                                                              | 190.44                                                                    | 152.21                                                                                         | 138.09                                                            | 183.80                                                                     | 135.75                                                                                         |
| 81                                                          | 158.61                                                      | 145.83                                                                | 146.42                                                                                           | 150.00                                                               | 164.24                                                                                          | 169.74                                                                              | 205.18                                                                    | 166.22                                                                                         | 152.20                                                            | 199.02                                                                     | 147.28                                                                                         |
| 82                                                          | 174.30                                                      | 158.70                                                                | 157.87                                                                                           | 162.40                                                               | 177.49                                                                                          | 184.51                                                                              | 220.98                                                                    | 181.54                                                                                         | 167.77                                                            | 215.57                                                                     | 158.33                                                                                         |
| 83                                                          | 191.56                                                      | 172.46                                                                | 170.05                                                                                           | 175.73                                                               | 191.72                                                                                          | 198.25                                                                              | 238.22                                                                    | 198.30                                                                                         | 184.96                                                            | 233.15                                                                     | 168.54                                                                                         |
| 84                                                          | 211.36                                                      | 187.52                                                                | 183.15                                                                                           | 190.14                                                               | 206.98                                                                                          | 211.12                                                                              | 255.99                                                                    | 216.62                                                                                         | 204.04                                                            | 251.98                                                                     | 179.56                                                                                         |
| 85                                                          | 235.55                                                      | 203.63                                                                | 197.07                                                                                           | 205.69                                                               | 223.30                                                                                          | 222.00                                                                              | 275.74                                                                    | 236.65                                                                                         | 225.08                                                            | 272.32                                                                     | 191.11                                                                                         |
| 86                                                          | 265.68                                                      | 220.84                                                                | 211.80                                                                                           | 222.13                                                               | 240.74                                                                                          | 228.05                                                                              | 295.97                                                                    | 258.55                                                                                         | 248.35                                                            | 293.83                                                                     | 203.07                                                                                         |
| 87                                                          | 303.02                                                      | 239.89                                                                | 227.29                                                                                           | 240.01                                                               | 259.33                                                                                          | 233.68                                                                              | 317.48                                                                    | 282.50                                                                                         | 274.15                                                            | 316.00                                                                     | 215.45                                                                                         |
| 88                                                          | 346.69                                                      | 259.55                                                                | 244.08                                                                                           | 258.87                                                               | 279.11                                                                                          | 237.88                                                                              | 339.97                                                                    | 308.69                                                                                         | 302.57                                                            | 341.46                                                                     | 228.30                                                                                         |
| 89                                                          | 395.86                                                      | 292.60                                                                | 261.70                                                                                           | 278.81                                                               | 300.10                                                                                          | 243.16                                                                              | 364.22                                                                    | 337.32                                                                                         | 334.18                                                            | 368.01                                                                     | 241.57                                                                                         |
| 90                                                          | 454.55                                                      | 328.15                                                                | 280.35                                                                                           | 300.75                                                               | 322.31                                                                                          | .....                                                                               | 389.83                                                                    | .....                                                                                          | 368.79                                                            | 395.19                                                                     | 255.17                                                                                         |
| 91                                                          | 532.47                                                      | 358.54                                                                | 299.46                                                                                           | 322.58                                                               | 345.75                                                                                          | .....                                                                               | 416.67                                                                    | .....                                                                                          | 407.67                                                            | 420.46                                                                     | 268.87                                                                                         |
| 92                                                          | 634.26                                                      | 389.74                                                                | 321.08                                                                                           | 347.88                                                               | 370.43                                                                                          | .....                                                                               | 447.62                                                                    | .....                                                                                          | 449.74                                                            | 450.98                                                                     | 282.56                                                                                         |
| 93                                                          | 734.18                                                      | 425.00                                                                | 341.88                                                                                           | 371.20                                                               | 396.30                                                                                          | .....                                                                               | 485.52                                                                    | .....                                                                                          | 498.45                                                            | 464.29                                                                     | 296.24                                                                                         |
| 94                                                          | 857.14                                                      | 462.45                                                                | 363.64                                                                                           | 400.00                                                               | 423.33                                                                                          | .....                                                                               | 516.13                                                                    | .....                                                                                          | 549.38                                                            | 500.00                                                                     | 310.21                                                                                         |
| 95                                                          | 1,000.00                                                    | 500.00                                                                | 387.76                                                                                           | 424.73                                                               | 451.46                                                                                          | .....                                                                               | 533.33                                                                    | .....                                                                                          | 602.74                                                            | 533.33                                                                     | 324.86                                                                                         |
| 96                                                          | .....                                                       | 558.82                                                                | 411.11                                                                                           | 457.94                                                               | 480.60                                                                                          | .....                                                                               | 571.43                                                                    | .....                                                                                          | 653.17                                                            | 571.43                                                                     | 340.85                                                                                         |
| 97                                                          | .....                                                       | 600.00                                                                | 443.40                                                                                           | 482.76                                                               | 510.65                                                                                          | .....                                                                               | 666.67                                                                    | .....                                                                                          | 700.00                                                            | 666.67                                                                     | 358.73                                                                                         |
| 98                                                          | .....                                                       | 666.67                                                                | 457.63                                                                                           | 500.00                                                               | 541.48                                                                                          | .....                                                                               | 1,000.00                                                                  | .....                                                                                          | 1,000.00                                                          | 1,000.00                                                                   | 379.05                                                                                         |
| 99                                                          | .....                                                       | 1,000.00                                                              | 500.00                                                                                           | 533.33                                                               | 572.92                                                                                          | .....                                                                               | .....                                                                     | .....                                                                                          | .....                                                             | .....                                                                      | 401.97                                                                                         |
| 100                                                         | .....                                                       | .....                                                                 | 562.50                                                                                           | 571.43                                                               | 604.78                                                                                          | .....                                                                               | .....                                                                     | .....                                                                                          | .....                                                             | .....                                                                      | 427.46                                                                                         |

\* 1000q<sub>x</sub> was copied to the nearest second decimal.

† The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

TABLE 86

## INSURED LIVES. NUMBER OF SUR

BASED ON MORTALITY TABLES\* DERIVED FROM THE EXPERIENCE OF LIFE INSURANCE COMPANIES IN VARIOUS ORIGINAL REGISTRA

| AGE.                       | American<br>Experience<br>Mortality<br>Table:<br>1900. | Thirty<br>American<br>Offices Life<br>Tables:<br>1874.<br>Males. | American-<br>Canadian<br>Mortality<br>Investigation:<br>1900-1915.<br>American<br>men.<br>AM <sup>(b)</sup> | British<br>Offices Life<br>Tables:<br>1863-1893.<br>Males.<br>O <sup>(b)</sup> | Four French<br>Offices<br>Mortality<br>Experience:<br>1819-1887.<br>Males and<br>females.<br>AF | Twenty-three<br>German<br>Offices Life<br>Tables:<br>1875.<br>Males and<br>females. | Three<br>Japanese<br>Offices Life<br>Tables:<br>1905.<br>Males.<br>J <sup>(b)</sup> | Seventeen<br>Swedish<br>Offices Life<br>Tables:<br>1895-1906.<br>Aggregate<br>males.<br>SM <sup>(b)</sup> | National<br>Fraternal<br>Congress<br>Mortality<br>Table:<br>1898. | Standard<br>Industrial<br>Mortality<br>Table:<br>1896-1905.<br>Males. | United<br>States.<br>Original<br>Registration<br>Tables:<br>1909-1911.<br>White<br>males.<br>† |
|----------------------------|--------------------------------------------------------|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| 1                          | 2                                                      | 3                                                                | 4                                                                                                           | 5                                                                              | 6                                                                                               | 7                                                                                   | 8                                                                                   | 9                                                                                                         | 10                                                                | 11                                                                    | 12                                                                                             |
| NUMBER OF SURVIVORS, $l_x$ |                                                        |                                                                  |                                                                                                             |                                                                                |                                                                                                 |                                                                                     |                                                                                     |                                                                                                           |                                                                   |                                                                       |                                                                                                |
| 0                          |                                                        |                                                                  |                                                                                                             |                                                                                | 95,996                                                                                          |                                                                                     |                                                                                     |                                                                                                           |                                                                   |                                                                       | 100,000                                                                                        |
| 1                          |                                                        |                                                                  |                                                                                                             |                                                                                | 92,539                                                                                          |                                                                                     |                                                                                     |                                                                                                           |                                                                   |                                                                       | 87,674                                                                                         |
| 2                          |                                                        |                                                                  |                                                                                                             |                                                                                | 89,993                                                                                          |                                                                                     |                                                                                     |                                                                                                           |                                                                   |                                                                       | 85,201                                                                                         |
| 3                          |                                                        |                                                                  |                                                                                                             |                                                                                | 88,119                                                                                          |                                                                                     |                                                                                     |                                                                                                           |                                                                   | 91,254                                                                | 84,117                                                                                         |
| 4                          |                                                        |                                                                  |                                                                                                             |                                                                                | 86,731                                                                                          |                                                                                     |                                                                                     |                                                                                                           |                                                                   | 89,090                                                                | 83,449                                                                                         |
| 5                          |                                                        |                                                                  |                                                                                                             |                                                                                | 85,702                                                                                          |                                                                                     |                                                                                     |                                                                                                           |                                                                   | 86,111                                                                |                                                                                                |
| 6                          |                                                        |                                                                  |                                                                                                             |                                                                                | 84,933                                                                                          |                                                                                     |                                                                                     |                                                                                                           |                                                                   | 84,972                                                                | 82,972                                                                                         |
| 7                          |                                                        |                                                                  |                                                                                                             |                                                                                | 84,319                                                                                          |                                                                                     |                                                                                     |                                                                                                           |                                                                   | 84,168                                                                | 82,581                                                                                         |
| 8                          |                                                        |                                                                  |                                                                                                             |                                                                                | 83,894                                                                                          |                                                                                     |                                                                                     |                                                                                                           |                                                                   | 83,562                                                                | 82,251                                                                                         |
| 9                          |                                                        |                                                                  |                                                                                                             |                                                                                | 83,522                                                                                          |                                                                                     |                                                                                     |                                                                                                           |                                                                   | 83,065                                                                | 81,971                                                                                         |
| 10                         | 85,404                                                 | 84,520                                                           |                                                                                                             | 84,262                                                                         | 83,198                                                                                          |                                                                                     | 86,406                                                                              |                                                                                                           |                                                                   | 82,658                                                                | 81,731                                                                                         |
| 11                         | 84,763                                                 | 83,973                                                           |                                                                                                             | 83,715                                                                         | 82,895                                                                                          |                                                                                     | 85,707                                                                              |                                                                                                           |                                                                   | 82,323                                                                | 81,519                                                                                         |
| 12                         | 84,128                                                 | 83,427                                                           |                                                                                                             | 83,228                                                                         | 82,592                                                                                          |                                                                                     | 85,183                                                                              |                                                                                                           |                                                                   | 82,040                                                                | 81,325                                                                                         |
| 13                         | 83,493                                                 | 82,843                                                           |                                                                                                             | 82,713                                                                         | 82,273                                                                                          |                                                                                     | 84,557                                                                              |                                                                                                           |                                                                   | 81,790                                                                | 81,140                                                                                         |
| 14                         | 82,861                                                 | 82,341                                                           |                                                                                                             | 82,199                                                                         | 81,926                                                                                          |                                                                                     | 83,911                                                                              |                                                                                                           |                                                                   | 81,551                                                                | 80,954                                                                                         |
| 15                         | 82,232                                                 | 81,800                                                           | 80,567                                                                                                      | 81,686                                                                         | 81,543                                                                                          |                                                                                     | 83,235                                                                              | 80,258                                                                                                    |                                                                   | 81,314                                                                | 80,759                                                                                         |
| 16                         | 81,604                                                 | 81,261                                                           | 80,288                                                                                                      | 81,172                                                                         | 81,123                                                                                          |                                                                                     | 82,518                                                                              | 80,036                                                                                                    |                                                                   | 81,057                                                                | 80,549                                                                                         |
| 17                         | 80,970                                                 | 80,724                                                           | 80,003                                                                                                      | 80,650                                                                         | 80,665                                                                                          | 81,321                                                                              | 81,740                                                                              | 79,811                                                                                                    |                                                                   | 80,767                                                                | 80,321                                                                                         |
| 18                         | 80,356                                                 | 80,187                                                           | 79,715                                                                                                      | 80,145                                                                         | 80,173                                                                                          | 80,602                                                                              | 80,922                                                                              | 79,583                                                                                                    |                                                                   | 80,435                                                                | 80,068                                                                                         |
| 19                         | 79,735                                                 | 79,651                                                           | 79,419                                                                                                      | 79,630                                                                         | 79,654                                                                                          | 79,881                                                                              | 80,041                                                                              | 79,351                                                                                                    |                                                                   | 80,050                                                                | 79,785                                                                                         |
| 20                         | 79,116                                                 | 79,116                                                           | 79,116                                                                                                      | 79,116                                                                         | 79,116                                                                                          | 79,116                                                                              | 79,116                                                                              | 79,116                                                                                                    | 70,116                                                            | 79,611                                                                | 79,467                                                                                         |
| 21                         | 78,499                                                 | 78,581                                                           | 78,806                                                                                                      | 78,600                                                                         | 78,570                                                                                          | 78,389                                                                              | 78,167                                                                              | 78,877                                                                                                    | 78,720                                                            | 79,116                                                                | 78,729                                                                                         |
| 22                         | 77,882                                                 | 78,046                                                           | 78,489                                                                                                      | 78,082                                                                         | 78,026                                                                                          | 77,671                                                                              | 77,217                                                                              | 78,632                                                                                                    | 78,324                                                            | 78,569                                                                | 78,299                                                                                         |
| 23                         | 77,266                                                 | 77,511                                                           | 78,166                                                                                                      | 77,563                                                                         | 77,495                                                                                          | 76,960                                                                              | 76,292                                                                              | 78,384                                                                                                    | 77,927                                                            | 77,975                                                                | 78,310                                                                                         |
| 24                         | 76,651                                                 | 76,975                                                           | 77,839                                                                                                      | 77,042                                                                         | 76,982                                                                                          | 76,288                                                                              | 75,412                                                                              | 78,130                                                                                                    | 77,529                                                            | 77,340                                                                | 77,891                                                                                         |
| 25                         | 76,037                                                 | 76,438                                                           | 77,508                                                                                                      | 76,518                                                                         | 76,488                                                                                          | 75,627                                                                              | 74,589                                                                              | 77,870                                                                                                    | 77,129                                                            | 76,672                                                                | 77,472                                                                                         |
| 26                         | 75,421                                                 | 75,901                                                           | 77,174                                                                                                      | 75,990                                                                         | 76,008                                                                                          | 74,081                                                                              | 73,825                                                                              | 77,604                                                                                                    | 76,728                                                            | 75,975                                                                | 77,047                                                                                         |
| 27                         | 74,811                                                 | 75,361                                                           | 76,838                                                                                                      | 75,460                                                                         | 75,521                                                                                          | 74,345                                                                              | 73,119                                                                              | 77,331                                                                                                    | 76,325                                                            | 75,251                                                                | 76,621                                                                                         |
| 28                         | 74,198                                                 | 74,819                                                           | 76,500                                                                                                      | 74,925                                                                         | 75,028                                                                                          | 73,715                                                                              | 72,459                                                                              | 77,049                                                                                                    | 75,919                                                            | 74,503                                                                | 76,189                                                                                         |
| 29                         | 73,584                                                 | 74,275                                                           | 76,162                                                                                                      | 74,385                                                                         | 74,528                                                                                          | 73,086                                                                              | 71,836                                                                              | 76,760                                                                                                    | 75,510                                                            | 73,732                                                                | 75,746                                                                                         |
| 30                         | 72,970                                                 | 73,726                                                           | 75,825                                                                                                      | 73,840                                                                         | 74,020                                                                                          | 72,453                                                                              | 71,235                                                                              | 76,461                                                                                                    | 75,007                                                            | 72,935                                                                | 75,286                                                                                         |
| 31                         | 72,355                                                 | 73,174                                                           | 75,486                                                                                                      | 73,288                                                                         | 73,503                                                                                          | 71,814                                                                              | 70,651                                                                              | 76,152                                                                                                    | 74,680                                                            | 72,116                                                                | 74,810                                                                                         |
| 32                         | 71,740                                                 | 72,618                                                           | 75,148                                                                                                      | 72,730                                                                         | 72,976                                                                                          | 71,166                                                                              | 70,077                                                                              | 75,832                                                                                                    | 74,258                                                            | 71,279                                                                | 74,316                                                                                         |
| 33                         | 71,122                                                 | 72,057                                                           | 74,809                                                                                                      | 72,165                                                                         | 72,439                                                                                          | 70,509                                                                              | 69,510                                                                              | 75,500                                                                                                    | 73,831                                                            | 70,426                                                                | 73,801                                                                                         |
| 34                         | 70,502                                                 | 71,490                                                           | 74,466                                                                                                      | 71,590                                                                         | 71,890                                                                                          | 69,844                                                                              | 68,947                                                                              | 75,154                                                                                                    | 73,397                                                            | 69,563                                                                | 73,261                                                                                         |
| 35                         | 69,880                                                 | 70,916                                                           | 74,117                                                                                                      | 71,006                                                                         | 71,329                                                                                          | 69,166                                                                              | 68,385                                                                              | 74,705                                                                                                    | 72,957                                                            | 68,694                                                                | 72,697                                                                                         |
| 36                         | 69,254                                                 | 70,334                                                           | 73,762                                                                                                      | 70,411                                                                         | 70,753                                                                                          | 68,476                                                                              | 67,826                                                                              | 74,420                                                                                                    | 72,508                                                            | 67,819                                                                | 72,108                                                                                         |
| 37                         | 68,625                                                 | 69,744                                                           | 73,398                                                                                                      | 69,806                                                                         | 70,162                                                                                          | 67,772                                                                              | 67,262                                                                              | 74,028                                                                                                    | 72,051                                                            | 66,938                                                                | 71,494                                                                                         |
| 38                         | 67,991                                                 | 69,144                                                           | 73,023                                                                                                      | 69,187                                                                         | 69,555                                                                                          | 67,056                                                                              | 66,688                                                                              | 73,619                                                                                                    | 71,583                                                            | 66,053                                                                | 70,858                                                                                         |
| 39                         | 67,352                                                 | 68,534                                                           | 72,634                                                                                                      | 68,555                                                                         | 68,929                                                                                          | 66,321                                                                              | 66,097                                                                              | 73,190                                                                                                    | 71,104                                                            | 65,160                                                                | 70,204                                                                                         |
| 40                         | 66,706                                                 | 67,912                                                           | 72,231                                                                                                      | 67,907                                                                         | 68,284                                                                                          | 65,570                                                                              | 65,481                                                                              | 72,739                                                                                                    | 70,612                                                            | 64,256                                                                | 69,534                                                                                         |
| 41                         | 66,053                                                 | 67,276                                                           | 71,809                                                                                                      | 67,243                                                                         | 67,618                                                                                          | 64,798                                                                              | 64,832                                                                              | 72,264                                                                                                    | 70,105                                                            | 63,342                                                                | 68,848                                                                                         |
| 42                         | 65,392                                                 | 66,627                                                           | 71,366                                                                                                      | 66,560                                                                         | 66,929                                                                                          | 64,002                                                                              | 64,140                                                                              | 71,764                                                                                                    | 69,583                                                            | 62,414                                                                | 68,144                                                                                         |
| 43                         | 64,721                                                 | 65,961                                                           | 70,900                                                                                                      | 65,858                                                                         | 66,216                                                                                          | 63,184                                                                              | 63,399                                                                              | 71,238                                                                                                    | 69,043                                                            | 61,472                                                                | 67,422                                                                                         |
| 44                         | 64,040                                                 | 65,278                                                           | 70,406                                                                                                      | 65,131                                                                         | 65,476                                                                                          | 62,343                                                                              | 62,603                                                                              | 70,682                                                                                                    | 68,483                                                            | 60,515                                                                | 66,678                                                                                         |
| 45                         | 63,347                                                 | 64,576                                                           | 69,885                                                                                                      | 64,387                                                                         | 64,707                                                                                          | 61,479                                                                              | 61,748                                                                              | 70,093                                                                                                    | 67,902                                                            | 59,540                                                                | 65,909                                                                                         |
| 46                         | 62,640                                                 | 63,852                                                           | 69,330                                                                                                      | 63,615                                                                         | 63,907                                                                                          | 60,595                                                                              | 60,830                                                                              | 69,470                                                                                                    | 67,300                                                            | 58,546                                                                | 65,115                                                                                         |
| 47                         | 61,916                                                 | 63,106                                                           | 68,740                                                                                                      | 62,815                                                                         | 63,075                                                                                          | 59,693                                                                              | 59,851                                                                              | 68,810                                                                                                    | 66,675                                                            | 57,530                                                                | 64,292                                                                                         |
| 48                         | 61,173                                                 | 62,335                                                           | 68,109                                                                                                      | 61,996                                                                         | 62,207                                                                                          | 58,768                                                                              | 58,899                                                                              | 68,110                                                                                                    | 66,025                                                            | 56,491                                                                | 63,440                                                                                         |
| 49                         | 60,407                                                 | 61,536                                                           | 67,435                                                                                                      | 61,126                                                                         | 61,301                                                                                          | 57,816                                                                              | 57,701                                                                              | 67,367                                                                                                    | 65,317                                                            | 55,427                                                                | 62,563                                                                                         |

\* The method of obtaining these values is explained in sec. 91, p. 225.

† The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

VIVORS OUT OF 79,116 ALIVE AT AGE 20.\*

TABLE 86

COUNTRIES; ALSO THE NUMBER OF SURVIVORS TAKEN FROM THE LIFE TABLE FOR WHITE MALES IN THE UNION STATES: 1910.

| AGE.                         | American Experience Mortality Table: 1890. | Thirty American Offices Life Tables: 1871. Males. | American-Canadian Mortality Investigation: 1900-1915. American men. AM (6) | British Offices Life Tables: 1863-1893. Males. OM (6) | Four French Offices Mortality Experience: 1819-1887. Males and females. AF | Twenty-three German Offices Life Tables: 1875. Males and females. | Three Japanese Offices Life Tables: 1905. Males. JM (5) | Seventeen Swedish Offices Life Tables: 1895-1906. Aggregate males. PM (5) | National Fraternal Congress Mortality Table: 1898. | Standard Industrial Mortality Table: 1896-1905. Males. | United States. Original Registration States: 1909-1911. White males. † |
|------------------------------|--------------------------------------------|---------------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------------|
| 1                            | 2                                          | 3                                                 | 4                                                                          | 5                                                     | 6                                                                          | 7                                                                 | 8                                                       | 9                                                                         | 10                                                 | 11                                                     | 12                                                                     |
| NUMBER OF SURVIVORS, $l_x$ . |                                            |                                                   |                                                                            |                                                       |                                                                            |                                                                   |                                                         |                                                                           |                                                    |                                                        |                                                                        |
| 50                           | 59,616                                     | 60,707                                            | 66,714                                                                     | 60,232                                                | 60,355                                                                     | 56,830                                                            | 56,536                                                  | 66,578                                                                    | 64,639                                             | 53,215                                                 | 60,741                                                                 |
| 51                           | 58,794                                     | 59,847                                            | 65,941                                                                     | 59,301                                                | 59,367                                                                     | 55,799                                                            | 55,309                                                  | 65,740                                                                    | 63,900                                             | 52,064                                                 | 59,798                                                                 |
| 52                           | 57,939                                     | 58,952                                            | 65,114                                                                     | 58,332                                                | 58,333                                                                     | 54,721                                                            | 54,026                                                  | 64,849                                                                    | 63,123                                             | 50,878                                                 | 58,527                                                                 |
| 53                           | 57,048                                     | 58,020                                            | 64,227                                                                     | 57,323                                                | 57,251                                                                     | 53,594                                                            | 52,692                                                  | 63,902                                                                    | 62,309                                             | 49,657                                                 | 57,815                                                                 |
| 54                           | 56,116                                     | 57,048                                            | 63,278                                                                     | 56,268                                                | 56,119                                                                     | 52,415                                                            | 51,307                                                  | 62,896                                                                    | 61,453                                             | 48,398                                                 | 56,748                                                                 |
| 55                           | 55,140                                     | 56,034                                            | 62,261                                                                     | 55,168                                                | 54,933                                                                     | 51,184                                                            | 49,889                                                  | 61,827                                                                    | 60,551                                             | 47,100                                                 | 55,622                                                                 |
| 56                           | 54,116                                     | 54,973                                            | 61,173                                                                     | 54,018                                                | 53,693                                                                     | 49,902                                                            | 48,371                                                  | 60,691                                                                    | 59,600                                             | 45,759                                                 | 54,426                                                                 |
| 57                           | 53,039                                     | 53,864                                            | 60,010                                                                     | 52,818                                                | 52,394                                                                     | 48,564                                                            | 46,806                                                  | 59,485                                                                    | 58,595                                             | 44,376                                                 | 53,158                                                                 |
| 58                           | 51,908                                     | 52,703                                            | 58,768                                                                     | 51,563                                                | 51,036                                                                     | 47,172                                                            | 45,164                                                  | 58,205                                                                    | 57,533                                             | 42,947                                                 | 51,825                                                                 |
| 59                           | 50,717                                     | 51,487                                            | 57,445                                                                     | 50,253                                                | 49,617                                                                     | 45,723                                                            | 43,444                                                  | 56,848                                                                    | 56,411                                             | 41,473                                                 | 50,435                                                                 |
| 60                           | 49,404                                     | 50,215                                            | 56,038                                                                     | 48,885                                                | 48,134                                                                     | 44,220                                                            | 41,645                                                  | 55,412                                                                    | 55,224                                             | 39,953                                                 | 48,987                                                                 |
| 61                           | 48,143                                     | 48,883                                            | 54,543                                                                     | 47,457                                                | 46,588                                                                     | 42,656                                                            | 39,775                                                  | 53,802                                                                    | 53,967                                             | 38,386                                                 | 47,481                                                                 |
| 62                           | 46,753                                     | 47,459                                            | 52,960                                                                     | 45,968                                                | 44,977                                                                     | 41,044                                                            | 37,845                                                  | 52,259                                                                    | 52,637                                             | 36,772                                                 | 45,916                                                                 |
| 63                           | 45,290                                     | 46,031                                            | 51,287                                                                     | 44,417                                                | 43,301                                                                     | 39,385                                                            | 35,874                                                  | 50,599                                                                    | 51,231                                             | 35,114                                                 | 44,291                                                                 |
| 64                           | 43,753                                     | 44,507                                            | 49,525                                                                     | 42,804                                                | 41,563                                                                     | 37,685                                                            | 33,889                                                  | 48,821                                                                    | 49,743                                             | 33,413                                                 | 42,604                                                                 |
| 65                           | 42,139                                     | 42,916                                            | 47,673                                                                     | 41,129                                                | 39,763                                                                     | 35,946                                                            | 31,915                                                  | 46,956                                                                    | 48,173                                             | 31,672                                                 | 40,862                                                                 |
| 66                           | 40,448                                     | 41,258                                            | 45,735                                                                     | 39,393                                                | 37,904                                                                     | 34,169                                                            | 29,973                                                  | 45,004                                                                    | 46,516                                             | 29,895                                                 | 39,073                                                                 |
| 67                           | 38,680                                     | 39,533                                            | 43,714                                                                     | 37,599                                                | 35,991                                                                     | 32,348                                                            | 28,072                                                  | 42,069                                                                    | 44,771                                             | 28,085                                                 | 37,241                                                                 |
| 68                           | 36,837                                     | 37,743                                            | 41,614                                                                     | 35,750                                                | 34,028                                                                     | 30,485                                                            | 26,208                                                  | 40,853                                                                    | 42,637                                             | 26,251                                                 | 35,371                                                                 |
| 69                           | 34,922                                     | 35,892                                            | 39,444                                                                     | 33,849                                                | 32,021                                                                     | 28,587                                                            | 24,365                                                  | 38,663                                                                    | 41,015                                             | 24,399                                                 | 33,464                                                                 |
| 70                           | 32,940                                     | 33,981                                            | 37,210                                                                     | 31,901                                                | 29,079                                                                     | 26,063                                                            | 22,518                                                  | 36,404                                                                    | 39,000                                             | 22,540                                                 | 31,527                                                                 |
| 71                           | 30,898                                     | 32,018                                            | 34,923                                                                     | 29,920                                                | 27,912                                                                     | 24,723                                                            | 20,653                                                  | 34,080                                                                    | 36,913                                             | 20,651                                                 | 29,568                                                                 |
| 72                           | 28,807                                     | 30,008                                            | 32,593                                                                     | 27,906                                                | 25,829                                                                     | 22,781                                                            | 18,764                                                  | 31,721                                                                    | 34,742                                             | 18,835                                                 | 27,590                                                                 |
| 73                           | 26,683                                     | 27,961                                            | 30,236                                                                     | 25,872                                                | 23,743                                                                     | 20,853                                                            | 16,863                                                  | 29,321                                                                    | 32,502                                             | 17,014                                                 | 25,595                                                                 |
| 74                           | 24,543                                     | 25,888                                            | 27,866                                                                     | 23,820                                                | 21,668                                                                     | 18,950                                                            | 14,977                                                  | 26,903                                                                    | 30,200                                             | 15,233                                                 | 23,590                                                                 |
| 75                           | 22,408                                     | 23,798                                            | 25,499                                                                     | 21,791                                                | 19,618                                                                     | 17,083                                                            | 13,140                                                  | 24,481                                                                    | 27,651                                             | 13,506                                                 | 21,585                                                                 |
| 76                           | 20,293                                     | 21,709                                            | 23,155                                                                     | 19,772                                                | 17,609                                                                     | 15,264                                                            | 11,388                                                  | 22,077                                                                    | 25,471                                             | 11,845                                                 | 19,588                                                                 |
| 77                           | 18,217                                     | 19,636                                            | 20,851                                                                     | 17,780                                                | 15,657                                                                     | 13,515                                                            | 9,749                                                   | 19,711                                                                    | 23,077                                             | 10,266                                                 | 17,622                                                                 |
| 78                           | 16,194                                     | 17,594                                            | 18,606                                                                     | 15,850                                                | 13,778                                                                     | 11,832                                                            | 8,244                                                   | 17,406                                                                    | 20,690                                             | 8,783                                                  | 15,718                                                                 |
| 79                           | 14,237                                     | 15,602                                            | 16,442                                                                     | 13,981                                                | 11,990                                                                     | 10,283                                                            | 6,880                                                   | 15,183                                                                    | 18,335                                             | 7,408                                                  | 13,897                                                                 |
| 80                           | 12,361                                     | 13,680                                            | 14,376                                                                     | 12,194                                                | 10,306                                                                     | 8,821                                                             | 5,660                                                   | 13,067                                                                    | 16,037                                             | 6,151                                                  | 12,160                                                                 |
| 81                           | 10,576                                     | 11,846                                            | 12,424                                                                     | 10,505                                                | 8,740                                                                      | 7,453                                                             | 4,582                                                   | 11,078                                                                    | 13,822                                             | 5,021                                                  | 10,509                                                                 |
| 82                           | 8,898                                      | 10,119                                            | 10,605                                                                     | 8,929                                                 | 7,305                                                                      | 6,188                                                             | 3,642                                                   | 9,237                                                                     | 11,719                                             | 4,022                                                  | 8,962                                                                  |
| 83                           | 7,347                                      | 8,513                                             | 8,931                                                                      | 7,479                                                 | 6,008                                                                      | 5,046                                                             | 2,837                                                   | 7,560                                                                     | 9,753                                              | 3,155                                                  | 7,543                                                                  |
| 84                           | 5,940                                      | 7,045                                             | 7,412                                                                      | 6,165                                                 | 4,856                                                                      | 4,046                                                             | 2,161                                                   | 6,061                                                                     | 7,949                                              | 2,419                                                  | 6,272                                                                  |
| 85                           | 4,684                                      | 5,724                                             | 6,055                                                                      | 4,993                                                 | 3,851                                                                      | 3,192                                                             | 1,608                                                   | 4,748                                                                     | 6,327                                              | 1,810                                                  | 5,145                                                                  |
| 86                           | 3,581                                      | 4,558                                             | 4,861                                                                      | 3,966                                                 | 2,991                                                                      | 2,483                                                             | 1,165                                                   | 3,624                                                                     | 4,903                                              | 1,317                                                  | 4,162                                                                  |
| 87                           | 2,630                                      | 3,552                                             | 3,832                                                                      | 3,085                                                 | 2,271                                                                      | 1,917                                                             | 820                                                     | 2,687                                                                     | 3,685                                              | 930                                                    | 3,317                                                                  |
| 88                           | 1,833                                      | 2,700                                             | 2,901                                                                      | 2,344                                                 | 1,682                                                                      | 1,469                                                             | 560                                                     | 1,928                                                                     | 2,675                                              | 636                                                    | 2,602                                                                  |
| 89                           | 1,197                                      | 1,999                                             | 2,238                                                                      | 1,737                                                 | 1,213                                                                      | 1,119                                                             | 369                                                     | 1,333                                                                     | 1,866                                              | 419                                                    | 2,006                                                                  |
| 90                           | 723                                        | 1,414                                             | 1,652                                                                      | 1,253                                                 | 849                                                                        | .....                                                             | 235                                                     | .....                                                                     | 1,242                                              | 266                                                    | 1,523                                                                  |
| 91                           | 395                                        | 950                                               | 1,189                                                                      | 876                                                   | 575                                                                        | .....                                                             | 143                                                     | .....                                                                     | 784                                                | 161                                                    | 1,134                                                                  |
| 92                           | 184                                        | 609                                               | 833                                                                        | 594                                                   | 376                                                                        | .....                                                             | 84                                                      | .....                                                                     | 464                                                | 93                                                     | 829                                                                    |
| 93                           | 67                                         | 372                                               | 566                                                                        | 387                                                   | 237                                                                        | .....                                                             | 46                                                      | .....                                                                     | 256                                                | 51                                                     | 595                                                                    |
| 94                           | 18                                         | 214                                               | 372                                                                        | 243                                                   | 143                                                                        | .....                                                             | 25                                                      | .....                                                                     | 128                                                | 27                                                     | 419                                                                    |
| 95                           | 3                                          | 115                                               | 237                                                                        | 146                                                   | 82                                                                         | .....                                                             | 12                                                      | .....                                                                     | 58                                                 | 14                                                     | 289                                                                    |
| 96                           | .....                                      | 57                                                | 145                                                                        | 84                                                    | 45                                                                         | .....                                                             | 6                                                       | .....                                                                     | 23                                                 | 6                                                      | 195                                                                    |
| 97                           | .....                                      | 25                                                | 55                                                                         | 46                                                    | 24                                                                         | .....                                                             | 2                                                       | .....                                                                     | 8                                                  | 3                                                      | 129                                                                    |
| 98                           | .....                                      | 10                                                | 48                                                                         | 24                                                    | 12                                                                         | .....                                                             | 1                                                       | .....                                                                     | 2                                                  | 1                                                      | 82                                                                     |
| 99                           | .....                                      | 3                                                 | 26                                                                         | 12                                                    | 5                                                                          | .....                                                             | .....                                                   | .....                                                                     | .....                                              | .....                                                  | 51                                                                     |
| 100                          | .....                                      | .....                                             | 13                                                                         | 5                                                     | 2                                                                          | .....                                                             | .....                                                   | .....                                                                     | .....                                              | .....                                                  | 31                                                                     |

\* The method of obtaining these values is explained in sec. 91, p. 225.

† The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

TABLE 87

## INSURED LIVES. NUMBER OF DEATHS

BASED ON MORTALITY TABLES\* DERIVED FROM THE EXPERIENCE OF LIFE INSURANCE COMPANIES IN VARIOUS ORIGINAL REGISTRA

| AGE.                      | American<br>Experience<br>Mortality<br>Table:<br>1890. | Thirty<br>American<br>Offices Life<br>Tables:<br>1871.<br>Males. | American-<br>Canadian<br>Mortality<br>Investigation:<br>1900-1915.<br>American<br>men.<br>AM (6) | British<br>Offices Life<br>Tables:<br>1873-1893.<br>Males.<br>OM (6) | Four French<br>Offices<br>Mortality<br>Experience:<br>1819-1887.<br>Males and<br>females.<br>AF | Twenty-three<br>German<br>Offices Life<br>Tables:<br>1875.<br>Males and<br>females. | Three<br>Japanese<br>Offices Life<br>Tables:<br>1905.<br>Males.<br>JM (6) | Seventeen<br>Swedish<br>Offices Life<br>Tables:<br>1895-1906.<br>Aggregate<br>males.<br>SM <sup>b</sup> | National<br>Fraternal<br>Congress<br>Mortality<br>Table:<br>1898. | Standard<br>Industrial<br>Mortality<br>Table:<br>1896-1905.<br>Males. | United<br>States<br>Original<br>Registration<br>States:<br>1909-1911.<br>White<br>males.<br>† |
|---------------------------|--------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 1                         | 2                                                      | 3                                                                | 4                                                                                                | 5                                                                    | 6                                                                                               | 7                                                                                   | 8                                                                         | 9                                                                                                       | 10                                                                | 11                                                                    | 12                                                                                            |
| NUMBER OF DEATHS, $d_x$ . |                                                        |                                                                  |                                                                                                  |                                                                      |                                                                                                 |                                                                                     |                                                                           |                                                                                                         |                                                                   |                                                                       |                                                                                               |
| 0                         |                                                        |                                                                  |                                                                                                  |                                                                      | 3,457                                                                                           |                                                                                     |                                                                           |                                                                                                         |                                                                   |                                                                       | 12,326                                                                                        |
| 1                         |                                                        |                                                                  |                                                                                                  |                                                                      | 2,544                                                                                           |                                                                                     |                                                                           |                                                                                                         |                                                                   |                                                                       | 2,473                                                                                         |
| 2                         |                                                        |                                                                  |                                                                                                  |                                                                      | 1,876                                                                                           |                                                                                     |                                                                           |                                                                                                         |                                                                   | 3,164                                                                 | 1,084                                                                                         |
| 3                         |                                                        |                                                                  |                                                                                                  |                                                                      | 1,388                                                                                           |                                                                                     |                                                                           |                                                                                                         |                                                                   | 1,979                                                                 | 668                                                                                           |
| 4                         |                                                        |                                                                  |                                                                                                  |                                                                      | 1,029                                                                                           |                                                                                     |                                                                           |                                                                                                         |                                                                   | 1,139                                                                 | 477                                                                                           |
| 5                         |                                                        |                                                                  |                                                                                                  |                                                                      | 769                                                                                             |                                                                                     |                                                                           |                                                                                                         |                                                                   | 804                                                                   | 391                                                                                           |
| 6                         |                                                        |                                                                  |                                                                                                  |                                                                      | 584                                                                                             |                                                                                     |                                                                           |                                                                                                         |                                                                   | 606                                                                   | 330                                                                                           |
| 7                         |                                                        |                                                                  |                                                                                                  |                                                                      | 455                                                                                             |                                                                                     |                                                                           |                                                                                                         |                                                                   | 497                                                                   | 280                                                                                           |
| 8                         |                                                        |                                                                  |                                                                                                  |                                                                      | 372                                                                                             |                                                                                     |                                                                           |                                                                                                         |                                                                   | 407                                                                   | 240                                                                                           |
| 9                         |                                                        |                                                                  |                                                                                                  |                                                                      | 324                                                                                             |                                                                                     |                                                                           |                                                                                                         |                                                                   | 335                                                                   | 212                                                                                           |
| 10                        | 639                                                    | 547                                                              |                                                                                                  | 517                                                                  | 303                                                                                             |                                                                                     | 609                                                                       |                                                                                                         |                                                                   | 283                                                                   | 191                                                                                           |
| 11                        | 637                                                    | 546                                                              |                                                                                                  | 517                                                                  | 303                                                                                             |                                                                                     | 614                                                                       |                                                                                                         |                                                                   | 250                                                                   | 185                                                                                           |
| 12                        | 635                                                    | 544                                                              |                                                                                                  | 515                                                                  | 319                                                                                             |                                                                                     | 626                                                                       |                                                                                                         |                                                                   | 236                                                                   | 186                                                                                           |
| 13                        | 632                                                    | 542                                                              |                                                                                                  | 514                                                                  | 347                                                                                             |                                                                                     | 646                                                                       |                                                                                                         |                                                                   | 240                                                                   | 195                                                                                           |
| 14                        | 629                                                    | 541                                                              |                                                                                                  | 513                                                                  | 383                                                                                             |                                                                                     | 676                                                                       |                                                                                                         |                                                                   | 257                                                                   | 210                                                                                           |
| 15                        | 628                                                    | 539                                                              | 279                                                                                              | 514                                                                  | 420                                                                                             |                                                                                     | 717                                                                       | 222                                                                                                     |                                                                   | 290                                                                   | 228                                                                                           |
| 16                        | 625                                                    | 537                                                              | 283                                                                                              | 513                                                                  | 458                                                                                             |                                                                                     | 769                                                                       | 225                                                                                                     |                                                                   | 332                                                                   | 253                                                                                           |
| 17                        | 623                                                    | 537                                                              | 290                                                                                              | 514                                                                  | 492                                                                                             | 719                                                                                 | 827                                                                       | 228                                                                                                     |                                                                   | 385                                                                   | 283                                                                                           |
| 18                        | 621                                                    | 536                                                              | 296                                                                                              | 515                                                                  | 519                                                                                             | 741                                                                                 | 881                                                                       | 232                                                                                                     |                                                                   | 439                                                                   | 318                                                                                           |
| 19                        | 619                                                    | 535                                                              | 303                                                                                              | 514                                                                  | 538                                                                                             | 745                                                                                 | 925                                                                       | 235                                                                                                     |                                                                   | 495                                                                   | 351                                                                                           |
| 20                        | 617                                                    | 535                                                              | 310                                                                                              | 516                                                                  | 546                                                                                             | 727                                                                                 | 949                                                                       | 239                                                                                                     | 396                                                               | 547                                                                   | 387                                                                                           |
| 21                        | 617                                                    | 535                                                              | 317                                                                                              | 518                                                                  | 544                                                                                             | 718                                                                                 | 950                                                                       | 245                                                                                                     | 396                                                               | 594                                                                   | 413                                                                                           |
| 22                        | 616                                                    | 535                                                              | 323                                                                                              | 519                                                                  | 531                                                                                             | 702                                                                                 | 925                                                                       | 248                                                                                                     | 397                                                               | 635                                                                   | 422                                                                                           |
| 23                        | 615                                                    | 536                                                              | 327                                                                                              | 521                                                                  | 513                                                                                             | 681                                                                                 | 880                                                                       | 254                                                                                                     | 398                                                               | 668                                                                   | 422                                                                                           |
| 24                        | 614                                                    | 537                                                              | 331                                                                                              | 524                                                                  | 494                                                                                             | 661                                                                                 | 823                                                                       | 260                                                                                                     | 400                                                               | 697                                                                   | 425                                                                                           |
| 25                        | 613                                                    | 537                                                              | 334                                                                                              | 528                                                                  | 480                                                                                             | 646                                                                                 | 761                                                                       | 266                                                                                                     | 401                                                               | 724                                                                   | 426                                                                                           |
| 26                        | 613                                                    | 540                                                              | 336                                                                                              | 530                                                                  | 487                                                                                             | 636                                                                                 | 706                                                                       | 273                                                                                                     | 403                                                               | 748                                                                   | 432                                                                                           |
| 27                        | 613                                                    | 542                                                              | 338                                                                                              | 535                                                                  | 493                                                                                             | 630                                                                                 | 660                                                                       | 282                                                                                                     | 406                                                               | 771                                                                   | 443                                                                                           |
| 28                        | 614                                                    | 544                                                              | 338                                                                                              | 540                                                                  | 500                                                                                             | 629                                                                                 | 623                                                                       | 289                                                                                                     | 409                                                               | 797                                                                   | 460                                                                                           |
| 29                        | 614                                                    | 549                                                              | 337                                                                                              | 545                                                                  | 508                                                                                             | 633                                                                                 | 601                                                                       | 299                                                                                                     | 413                                                               | 819                                                                   | 476                                                                                           |
| 30                        | 615                                                    | 552                                                              | 339                                                                                              | 552                                                                  | 517                                                                                             | 639                                                                                 | 584                                                                       | 309                                                                                                     | 417                                                               | 837                                                                   | 494                                                                                           |
| 31                        | 615                                                    | 556                                                              | 338                                                                                              | 558                                                                  | 527                                                                                             | 648                                                                                 | 574                                                                       | 320                                                                                                     | 422                                                               | 853                                                                   | 515                                                                                           |
| 32                        | 618                                                    | 561                                                              | 339                                                                                              | 565                                                                  | 537                                                                                             | 657                                                                                 | 567                                                                       | 332                                                                                                     | 427                                                               | 863                                                                   | 540                                                                                           |
| 33                        | 620                                                    | 567                                                              | 343                                                                                              | 573                                                                  | 549                                                                                             | 665                                                                                 | 563                                                                       | 346                                                                                                     | 434                                                               | 869                                                                   | 564                                                                                           |
| 34                        | 622                                                    | 574                                                              | 349                                                                                              | 584                                                                  | 561                                                                                             | 678                                                                                 | 562                                                                       | 359                                                                                                     | 440                                                               | 875                                                                   | 589                                                                                           |
| 35                        | 626                                                    | 582                                                              | 355                                                                                              | 595                                                                  | 576                                                                                             | 690                                                                                 | 559                                                                       | 375                                                                                                     | 449                                                               | 881                                                                   | 614                                                                                           |
| 36                        | 629                                                    | 590                                                              | 364                                                                                              | 605                                                                  | 591                                                                                             | 704                                                                                 | 564                                                                       | 392                                                                                                     | 457                                                               | 885                                                                   | 636                                                                                           |
| 37                        | 634                                                    | 600                                                              | 375                                                                                              | 619                                                                  | 607                                                                                             | 716                                                                                 | 574                                                                       | 409                                                                                                     | 468                                                               | 893                                                                   | 654                                                                                           |
| 38                        | 639                                                    | 610                                                              | 389                                                                                              | 632                                                                  | 626                                                                                             | 735                                                                                 | 591                                                                       | 429                                                                                                     | 479                                                               | 904                                                                   | 670                                                                                           |
| 39                        | 646                                                    | 622                                                              | 403                                                                                              | 648                                                                  | 645                                                                                             | 751                                                                                 | 616                                                                       | 451                                                                                                     | 492                                                               | 914                                                                   | 686                                                                                           |
| 40                        | 653                                                    | 636                                                              | 422                                                                                              | 664                                                                  | 666                                                                                             | 772                                                                                 | 649                                                                       | 475                                                                                                     | 507                                                               | 928                                                                   | 704                                                                                           |
| 41                        | 661                                                    | 649                                                              | 443                                                                                              | 683                                                                  | 689                                                                                             | 796                                                                                 | 692                                                                       | 500                                                                                                     | 522                                                               | 942                                                                   | 722                                                                                           |
| 42                        | 671                                                    | 666                                                              | 466                                                                                              | 702                                                                  | 713                                                                                             | 818                                                                                 | 741                                                                       | 526                                                                                                     | 540                                                               | 957                                                                   | 744                                                                                           |
| 43                        | 681                                                    | 683                                                              | 492                                                                                              | 724                                                                  | 740                                                                                             | 841                                                                                 | 798                                                                       | 556                                                                                                     | 560                                                               | 975                                                                   | 769                                                                                           |
| 44                        | 693                                                    | 702                                                              | 523                                                                                              | 747                                                                  | 769                                                                                             | 864                                                                                 | 855                                                                       | 589                                                                                                     | 581                                                               | 994                                                                   | 794                                                                                           |
| 45                        | 707                                                    | 724                                                              | 555                                                                                              | 772                                                                  | 800                                                                                             | 884                                                                                 | 918                                                                       | 623                                                                                                     | 602                                                               | 1,016                                                                 | 823                                                                                           |
| 46                        | 724                                                    | 746                                                              | 590                                                                                              | 800                                                                  | 832                                                                                             | 902                                                                                 | 979                                                                       | 660                                                                                                     | 625                                                               | 1,039                                                                 | 852                                                                                           |
| 47                        | 743                                                    | 771                                                              | 631                                                                                              | 829                                                                  | 868                                                                                             | 925                                                                                 | 1,042                                                                     | 700                                                                                                     | 650                                                               | 1,064                                                                 | 877                                                                                           |
| 48                        | 766                                                    | 799                                                              | 674                                                                                              | 860                                                                  | 906                                                                                             | 952                                                                                 | 1,105                                                                     | 743                                                                                                     | 678                                                               | 1,091                                                                 | 900                                                                                           |
| 49                        | 791                                                    | 829                                                              | 721                                                                                              | 894                                                                  | 946                                                                                             | 986                                                                                 | 1,168                                                                     | 789                                                                                                     | 708                                                               | 1,121                                                                 | 922                                                                                           |

\* These values were derived from Table 86, p. 228. See first footnote of that table.

† The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.



OUT OF 79,116 ALIVE AT AGE 20.\*

TABLE 87

COUNTRIES: ALSO THE NUMBER OF DEATHS TAKEN FROM THE LIFE TABLE FOR WHITE MALES IN THE UNITED STATES: 1910.

| AGE.                      | American Experience Mortality Table: 1860. | Thirty American Offices Life Tables: 1871. Males. | American-Canadian Mortality Investigation: 1900-1915. American men. AM (5) | British Offices Life Tables: 1863-1893. Males. OM (5) | Four French Offices Mortality Experience: 1819-1887. Males and females. AF | Twenty-three German Offices Life Tables: 1875. Males and females. | Three Japanese Offices Life Tables: 1905. Males. JM (5) | Seventeen Swedish Offices Life Tables: 1805-1906. Aggregate males. SM <sup>h</sup> | National Fraternal Congress Mortality Table: 1893. | Standard Industrial Mortality Table: 1896-1905. Males. | United States. Original Registration States: 1909-1911. White males. † |
|---------------------------|--------------------------------------------|---------------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------------|
| 1                         | 2                                          | 3                                                 | 4                                                                          | 5                                                     | 6                                                                          | 7                                                                 | 8                                                       | 9                                                                                  | 10                                                 | 11                                                     | 12                                                                     |
| NUMBER OF DEATHS, $d_x$ . |                                            |                                                   |                                                                            |                                                       |                                                                            |                                                                   |                                                         |                                                                                    |                                                    |                                                        |                                                                        |
| 50                        | 822                                        | 860                                               | 773                                                                        | 931                                                   | 988                                                                        | 1,031                                                             | 1,227                                                   | 838                                                                                | 739                                                | 1,151                                                  | 943                                                                    |
| 51                        | 855                                        | 895                                               | 827                                                                        | 969                                                   | 1,034                                                                      | 1,078                                                             | 1,283                                                   | 891                                                                                | 777                                                | 1,186                                                  | 971                                                                    |
| 52                        | 891                                        | 932                                               | 887                                                                        | 1,009                                                 | 1,082                                                                      | 1,127                                                             | 1,334                                                   | 947                                                                                | 814                                                | 1,221                                                  | 1,012                                                                  |
| 53                        | 932                                        | 972                                               | 949                                                                        | 1,055                                                 | 1,132                                                                      | 1,179                                                             | 1,385                                                   | 1,006                                                                              | 856                                                | 1,259                                                  | 1,067                                                                  |
| 54                        | 976                                        | 1,014                                             | 1,017                                                                      | 1,100                                                 | 1,186                                                                      | 1,231                                                             | 1,438                                                   | 1,069                                                                              | 902                                                | 1,298                                                  | 1,126                                                                  |
| 55                        | 1,024                                      | 1,061                                             | 1,088                                                                      | 1,150                                                 | 1,240                                                                      | 1,282                                                             | 1,498                                                   | 1,136                                                                              | 951                                                | 1,341                                                  | 1,196                                                                  |
| 56                        | 1,077                                      | 1,109                                             | 1,163                                                                      | 1,200                                                 | 1,299                                                                      | 1,338                                                             | 1,565                                                   | 1,206                                                                              | 1,005                                              | 1,383                                                  | 1,268                                                                  |
| 57                        | 1,131                                      | 1,161                                             | 1,242                                                                      | 1,255                                                 | 1,358                                                                      | 1,392                                                             | 1,642                                                   | 1,280                                                                              | 1,062                                              | 1,429                                                  | 1,333                                                                  |
| 58                        | 1,191                                      | 1,216                                             | 1,323                                                                      | 1,310                                                 | 1,419                                                                      | 1,449                                                             | 1,720                                                   | 1,357                                                                              | 1,122                                              | 1,474                                                  | 1,390                                                                  |
| 59                        | 1,253                                      | 1,272                                             | 1,407                                                                      | 1,368                                                 | 1,483                                                                      | 1,503                                                             | 1,799                                                   | 1,436                                                                              | 1,187                                              | 1,520                                                  | 1,448                                                                  |
| 60                        | 1,321                                      | 1,332                                             | 1,495                                                                      | 1,428                                                 | 1,546                                                                      | 1,564                                                             | 1,870                                                   | 1,520                                                                              | 1,257                                              | 1,567                                                  | 1,506                                                                  |
| 61                        | 1,390                                      | 1,394                                             | 1,583                                                                      | 1,489                                                 | 1,611                                                                      | 1,612                                                             | 1,930                                                   | 1,603                                                                              | 1,330                                              | 1,614                                                  | 1,565                                                                  |
| 62                        | 1,463                                      | 1,458                                             | 1,673                                                                      | 1,551                                                 | 1,676                                                                      | 1,659                                                             | 1,971                                                   | 1,690                                                                              | 1,406                                              | 1,658                                                  | 1,625                                                                  |
| 63                        | 1,537                                      | 1,524                                             | 1,762                                                                      | 1,613                                                 | 1,738                                                                      | 1,700                                                             | 1,985                                                   | 1,778                                                                              | 1,488                                              | 1,701                                                  | 1,687                                                                  |
| 64                        | 1,614                                      | 1,591                                             | 1,852                                                                      | 1,675                                                 | 1,800                                                                      | 1,739                                                             | 1,974                                                   | 1,865                                                                              | 1,570                                              | 1,741                                                  | 1,742                                                                  |
| 65                        | 1,691                                      | 1,638                                             | 1,938                                                                      | 1,736                                                 | 1,859                                                                      | 1,777                                                             | 1,942                                                   | 1,952                                                                              | 1,657                                              | 1,777                                                  | 1,789                                                                  |
| 66                        | 1,768                                      | 1,725                                             | 2,021                                                                      | 1,794                                                 | 1,913                                                                      | 1,821                                                             | 1,901                                                   | 2,035                                                                              | 1,745                                              | 1,810                                                  | 1,832                                                                  |
| 67                        | 1,843                                      | 1,790                                             | 2,100                                                                      | 1,849                                                 | 1,963                                                                      | 1,863                                                             | 1,864                                                   | 2,116                                                                              | 1,834                                              | 1,834                                                  | 1,870                                                                  |
| 68                        | 1,915                                      | 1,851                                             | 2,170                                                                      | 1,901                                                 | 2,007                                                                      | 1,893                                                             | 1,843                                                   | 2,190                                                                              | 1,922                                              | 1,852                                                  | 1,907                                                                  |
| 69                        | 1,982                                      | 1,911                                             | 2,234                                                                      | 1,945                                                 | 2,042                                                                      | 1,924                                                             | 1,847                                                   | 2,259                                                                              | 2,009                                              | 1,859                                                  | 1,937                                                                  |
| 70                        | 2,042                                      | 1,963                                             | 2,287                                                                      | 1,984                                                 | 2,087                                                                      | 1,940                                                             | 1,865                                                   | 2,318                                                                              | 2,093                                              | 1,859                                                  | 1,959                                                                  |
| 71                        | 2,091                                      | 2,010                                             | 2,330                                                                      | 2,014                                                 | 2,083                                                                      | 1,942                                                             | 1,889                                                   | 2,365                                                                              | 2,171                                              | 1,846                                                  | 1,978                                                                  |
| 72                        | 2,124                                      | 2,047                                             | 2,357                                                                      | 2,034                                                 | 2,086                                                                      | 1,928                                                             | 1,901                                                   | 2,400                                                                              | 2,240                                              | 1,821                                                  | 1,995                                                                  |
| 73                        | 2,140                                      | 2,073                                             | 2,370                                                                      | 2,043                                                 | 2,075                                                                      | 1,903                                                             | 1,886                                                   | 2,418                                                                              | 2,302                                              | 1,781                                                  | 2,005                                                                  |
| 74                        | 2,135                                      | 2,090                                             | 2,367                                                                      | 2,038                                                 | 2,050                                                                      | 1,867                                                             | 1,837                                                   | 2,422                                                                              | 2,349                                              | 1,727                                                  | 2,005                                                                  |
| 75                        | 2,115                                      | 2,089                                             | 2,344                                                                      | 2,019                                                 | 2,009                                                                      | 1,819                                                             | 1,752                                                   | 2,404                                                                              | 2,380                                              | 1,661                                                  | 1,997                                                                  |
| 76                        | 2,076                                      | 2,073                                             | 2,304                                                                      | 1,986                                                 | 1,932                                                                      | 1,749                                                             | 1,639                                                   | 2,366                                                                              | 2,394                                              | 1,579                                                  | 1,966                                                                  |
| 77                        | 2,023                                      | 2,042                                             | 2,245                                                                      | 1,936                                                 | 1,879                                                                      | 1,663                                                             | 1,505                                                   | 2,305                                                                              | 2,387                                              | 1,483                                                  | 1,904                                                                  |
| 78                        | 1,957                                      | 1,992                                             | 2,164                                                                      | 1,869                                                 | 1,788                                                                      | 1,569                                                             | 1,364                                                   | 2,223                                                                              | 2,355                                              | 1,375                                                  | 1,821                                                                  |
| 79                        | 1,876                                      | 1,922                                             | 2,066                                                                      | 1,787                                                 | 1,684                                                                      | 1,462                                                             | 1,220                                                   | 2,116                                                                              | 2,298                                              | 1,257                                                  | 1,737                                                                  |
| 80                        | 1,785                                      | 1,834                                             | 1,952                                                                      | 1,689                                                 | 1,566                                                                      | 1,368                                                             | 1,078                                                   | 1,989                                                                              | 2,215                                              | 1,130                                                  | 1,651                                                                  |
| 81                        | 1,678                                      | 1,727                                             | 1,819                                                                      | 1,576                                                 | 1,435                                                                      | 1,265                                                             | 940                                                     | 1,841                                                                              | 2,103                                              | 999                                                    | 1,547                                                                  |
| 82                        | 1,551                                      | 1,606                                             | 1,674                                                                      | 1,450                                                 | 1,297                                                                      | 1,142                                                             | 805                                                     | 1,677                                                                              | 1,966                                              | 867                                                    | 1,419                                                                  |
| 83                        | 1,407                                      | 1,468                                             | 1,519                                                                      | 1,314                                                 | 1,152                                                                      | 1,000                                                             | 676                                                     | 1,499                                                                              | 1,804                                              | 736                                                    | 1,271                                                                  |
| 84                        | 1,256                                      | 1,321                                             | 1,357                                                                      | 1,172                                                 | 1,005                                                                      | 854                                                               | 553                                                     | 1,313                                                                              | 1,622                                              | 609                                                    | 1,127                                                                  |
| 85                        | 1,103                                      | 1,166                                             | 1,194                                                                      | 1,027                                                 | 860                                                                        | 709                                                               | 443                                                     | 1,124                                                                              | 1,424                                              | 493                                                    | 983                                                                    |
| 86                        | 951                                        | 1,006                                             | 1,029                                                                      | 881                                                   | 720                                                                        | 566                                                               | 345                                                     | 937                                                                                | 1,218                                              | 387                                                    | 845                                                                    |
| 87                        | 797                                        | 852                                               | 871                                                                        | 741                                                   | 589                                                                        | 448                                                               | 260                                                     | 759                                                                                | 1,010                                              | 294                                                    | 715                                                                    |
| 88                        | 636                                        | 701                                               | 723                                                                        | 607                                                   | 469                                                                        | 350                                                               | 191                                                     | 595                                                                                | 809                                                | 217                                                    | 594                                                                    |
| 89                        | 474                                        | 585                                               | 586                                                                        | 484                                                   | 364                                                                        | .....                                                             | 134                                                     | .....                                                                              | 624                                                | 153                                                    | 485                                                                    |
| 90                        | 328                                        | 464                                               | 463                                                                        | 377                                                   | 274                                                                        | .....                                                             | 92                                                      | .....                                                                              | 458                                                | 105                                                    | 389                                                                    |
| 91                        | 211                                        | 341                                               | 356                                                                        | 282                                                   | 199                                                                        | .....                                                             | 59                                                      | .....                                                                              | 320                                                | 68                                                     | 305                                                                    |
| 92                        | 117                                        | 237                                               | 267                                                                        | 207                                                   | 139                                                                        | .....                                                             | 38                                                      | .....                                                                              | 208                                                | 42                                                     | 234                                                                    |
| 93                        | 49                                         | 158                                               | 194                                                                        | 144                                                   | 94                                                                         | .....                                                             | 21                                                      | .....                                                                              | 128                                                | 24                                                     | 176                                                                    |
| 94                        | 15                                         | 99                                                | 135                                                                        | 97                                                    | 61                                                                         | .....                                                             | 13                                                      | .....                                                                              | 70                                                 | 13                                                     | 130                                                                    |
| 95                        | 3                                          | 58                                                | 92                                                                         | 62                                                    | 37                                                                         | .....                                                             | 6                                                       | .....                                                                              | 35                                                 | 8                                                      | 94                                                                     |
| 96                        | .....                                      | 32                                                | 60                                                                         | 38                                                    | 21                                                                         | .....                                                             | 4                                                       | .....                                                                              | 15                                                 | 3                                                      | 66                                                                     |
| 97                        | .....                                      | 15                                                | 37                                                                         | 22                                                    | 12                                                                         | .....                                                             | 1                                                       | .....                                                                              | 6                                                  | 2                                                      | 47                                                                     |
| 98                        | .....                                      | 7                                                 | 22                                                                         | 12                                                    | 7                                                                          | .....                                                             | 1                                                       | .....                                                                              | 2                                                  | 1                                                      | 31                                                                     |
| 99                        | .....                                      | 3                                                 | 13                                                                         | 7                                                     | 3                                                                          | .....                                                             | .....                                                   | .....                                                                              | .....                                              | .....                                                  | 20                                                                     |
| 100                       | .....                                      | .....                                             | 7                                                                          | 3                                                     | 1                                                                          | .....                                                             | .....                                                   | .....                                                                              | .....                                              | .....                                                  | 13                                                                     |

\* These values were derived from Table 86, p. 228. See first footnote of that table.

† The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

TABLE 88

## INSURED LIVES. COMPLETE EXPECTATION

BASED ON MORTALITY TABLES DERIVED FROM THE EXPERIENCE OF LIFE INSURANCE COMPANIES IN VARIOUS  
THE ORIGINAL REGIS

| AGE.                                                 | American<br>Experience<br>Mortality<br>Table:<br>1860. | Thirty<br>American<br>Offices Life<br>Tables:<br>1874.<br>Males.<br>* | American-<br>Canadian<br>Mortality<br>Investigation:<br>1900-1915.<br>American<br>men.<br>AM (a) | British<br>Offices Life<br>Tables:<br>1863-1893.<br>Males.<br>OM (a)<br>* | Four French<br>Offices<br>Mortality<br>Experience:<br>1819-1887.<br>Males and<br>females.<br>AF<br>* | Twenty-three<br>German<br>Offices Life<br>Tables:<br>1875.<br>Males and<br>females. | Three<br>Japanese<br>Offices Life<br>Tables:<br>1905.<br>Males.<br>JM (a)<br>* | Seventeen<br>Swedish<br>Offices Life<br>Tables:<br>1895-1906.<br>Aggregate<br>males.<br>SM (a)<br>† | National<br>Fraternal<br>Congress<br>Mortality<br>Table:<br>1898. | Standard<br>Industrial<br>Mortality<br>Table:<br>1896-1905.<br>Males.<br>† | United<br>States.<br>Original<br>Registration<br>States:<br>1909-1911.<br>White<br>males.<br>‡ |
|------------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| 1                                                    | 2                                                      | 3                                                                     | 4                                                                                                | 5                                                                         | 6                                                                                                    | 7                                                                                   | 8                                                                              | 9                                                                                                   | 10                                                                | 11                                                                         | 12                                                                                             |
| COMPLETE EXPECTATION OF LIFE IN YEARS, $\bar{e}_x$ . |                                                        |                                                                       |                                                                                                  |                                                                           |                                                                                                      |                                                                                     |                                                                                |                                                                                                     |                                                                   |                                                                            |                                                                                                |
| 0                                                    |                                                        |                                                                       |                                                                                                  |                                                                           | 52.02                                                                                                |                                                                                     |                                                                                |                                                                                                     |                                                                   |                                                                            | 50.23                                                                                          |
| 1                                                    |                                                        |                                                                       |                                                                                                  |                                                                           | 52.94                                                                                                |                                                                                     |                                                                                |                                                                                                     |                                                                   |                                                                            | 50.26                                                                                          |
| 2                                                    |                                                        |                                                                       |                                                                                                  |                                                                           | 53.43                                                                                                |                                                                                     |                                                                                |                                                                                                     |                                                                   | 48.83                                                                      | 50.88                                                                                          |
| 3                                                    |                                                        |                                                                       |                                                                                                  |                                                                           | 53.55                                                                                                |                                                                                     |                                                                                |                                                                                                     |                                                                   | 49.56                                                                      | 50.60                                                                                          |
| 4                                                    |                                                        |                                                                       |                                                                                                  |                                                                           | 53.40                                                                                                |                                                                                     |                                                                                |                                                                                                     |                                                                   | 49.69                                                                      | 50.05                                                                                          |
| 5                                                    |                                                        |                                                                       |                                                                                                  |                                                                           | 53.04                                                                                                |                                                                                     |                                                                                |                                                                                                     |                                                                   | 49.35                                                                      | 55.37                                                                                          |
| 6                                                    |                                                        |                                                                       |                                                                                                  |                                                                           | 52.51                                                                                                |                                                                                     |                                                                                |                                                                                                     |                                                                   | 48.82                                                                      | 54.63                                                                                          |
| 7                                                    |                                                        |                                                                       |                                                                                                  |                                                                           | 51.87                                                                                                |                                                                                     |                                                                                |                                                                                                     |                                                                   | 48.17                                                                      | 53.85                                                                                          |
| 8                                                    |                                                        |                                                                       |                                                                                                  |                                                                           | 51.15                                                                                                |                                                                                     |                                                                                |                                                                                                     |                                                                   | 47.45                                                                      | 53.03                                                                                          |
| 9                                                    |                                                        |                                                                       |                                                                                                  |                                                                           | 50.38                                                                                                |                                                                                     |                                                                                |                                                                                                     |                                                                   | 46.68                                                                      | 52.19                                                                                          |
| 10                                                   | 48.72                                                  | 49.99                                                                 |                                                                                                  | 49.49                                                                     | 49.57                                                                                                |                                                                                     | 44.55                                                                          |                                                                                                     |                                                                   | 45.87                                                                      | 51.32                                                                                          |
| 11                                                   | 48.08                                                  | 49.32                                                                 |                                                                                                  | 48.80                                                                     | 48.75                                                                                                |                                                                                     | 43.86                                                                          |                                                                                                     |                                                                   | 45.03                                                                      | 50.44                                                                                          |
| 12                                                   | 47.45                                                  | 48.64                                                                 |                                                                                                  | 48.10                                                                     | 47.93                                                                                                |                                                                                     | 43.18                                                                          |                                                                                                     |                                                                   | 44.16                                                                      | 49.56                                                                                          |
| 13                                                   | 46.80                                                  | 47.95                                                                 |                                                                                                  | 47.39                                                                     | 47.11                                                                                                |                                                                                     | 42.40                                                                          |                                                                                                     |                                                                   | 43.29                                                                      | 48.67                                                                                          |
| 14                                                   | 46.16                                                  | 47.26                                                                 |                                                                                                  | 46.69                                                                     | 46.31                                                                                                |                                                                                     | 41.62                                                                          |                                                                                                     |                                                                   | 42.42                                                                      | 47.79                                                                                          |
| 15                                                   | 45.50                                                  | 46.57                                                                 | 50.06                                                                                            | 45.98                                                                     | 45.52                                                                                                |                                                                                     | 41.15                                                                          | 49.01                                                                                               |                                                                   | 41.55                                                                      | 46.91                                                                                          |
| 16                                                   | 44.85                                                  | 45.88                                                                 | 49.23                                                                                            | 45.26                                                                     | 44.76                                                                                                |                                                                                     | 40.50                                                                          | 49.04                                                                                               |                                                                   | 40.70                                                                      | 46.04                                                                                          |
| 17                                                   | 44.19                                                  | 45.18                                                                 | 48.40                                                                                            | 44.55                                                                     | 44.01                                                                                                | 41.59                                                                               | 39.88                                                                          | 48.18                                                                                               |                                                                   | 39.86                                                                      | 45.18                                                                                          |
| 18                                                   | 43.53                                                  | 44.48                                                                 | 47.58                                                                                            | 43.83                                                                     | 43.28                                                                                                | 40.06                                                                               | 39.28                                                                          | 47.32                                                                                               |                                                                   | 39.05                                                                      | 44.34                                                                                          |
| 19                                                   | 42.87                                                  | 43.78                                                                 | 46.75                                                                                            | 43.11                                                                     | 42.55                                                                                                | 40.34                                                                               | 38.71                                                                          | 46.45                                                                                               |                                                                   | 38.26                                                                      | 43.52                                                                                          |
| 20                                                   | 42.20                                                  | 43.07                                                                 | 45.93                                                                                            | 42.39                                                                     | 41.84                                                                                                | 39.71                                                                               | 38.16                                                                          | 45.59                                                                                               | 45.64                                                             | 37.50                                                                      | 42.71                                                                                          |
| 21                                                   | 41.53                                                  | 42.36                                                                 | 45.11                                                                                            | 41.66                                                                     | 41.13                                                                                                | 39.08                                                                               | 37.61                                                                          | 44.73                                                                                               | 44.87                                                             | 36.76                                                                      | 41.92                                                                                          |
| 22                                                   | 40.85                                                  | 41.63                                                                 | 44.29                                                                                            | 40.94                                                                     | 40.41                                                                                                | 38.43                                                                               | 37.07                                                                          | 43.86                                                                                               | 44.00                                                             | 36.03                                                                      | 41.13                                                                                          |
| 23                                                   | 40.17                                                  | 40.93                                                                 | 43.47                                                                                            | 40.21                                                                     | 39.68                                                                                                | 37.78                                                                               | 36.51                                                                          | 43.00                                                                                               | 43.32                                                             | 35.33                                                                      | 40.36                                                                                          |
| 24                                                   | 39.49                                                  | 40.21                                                                 | 42.65                                                                                            | 39.48                                                                     | 38.95                                                                                                | 37.11                                                                               | 35.93                                                                          | 42.14                                                                                               | 42.54                                                             | 34.63                                                                      | 39.57                                                                                          |
| 25                                                   | 38.81                                                  | 39.49                                                                 | 41.83                                                                                            | 38.74                                                                     | 38.19                                                                                                | 36.43                                                                               | 35.33                                                                          | 41.28                                                                                               | 41.75                                                             | 33.94                                                                      | 38.79                                                                                          |
| 26                                                   | 38.12                                                  | 38.77                                                                 | 41.01                                                                                            | 38.01                                                                     | 37.43                                                                                                | 35.74                                                                               | 34.69                                                                          | 40.42                                                                                               | 40.97                                                             | 33.26                                                                      | 38.00                                                                                          |
| 27                                                   | 37.43                                                  | 38.04                                                                 | 40.18                                                                                            | 37.27                                                                     | 36.67                                                                                                | 35.04                                                                               | 34.02                                                                          | 39.56                                                                                               | 40.18                                                             | 32.59                                                                      | 37.21                                                                                          |
| 28                                                   | 36.73                                                  | 37.31                                                                 | 39.36                                                                                            | 36.53                                                                     | 35.91                                                                                                | 34.34                                                                               | 33.32                                                                          | 38.70                                                                                               | 39.40                                                             | 31.93                                                                      | 36.43                                                                                          |
| 29                                                   | 36.03                                                  | 36.58                                                                 | 38.53                                                                                            | 35.80                                                                     | 35.14                                                                                                | 33.63                                                                               | 32.61                                                                          | 37.85                                                                                               | 38.61                                                             | 31.27                                                                      | 35.65                                                                                          |
| 30                                                   | 35.33                                                  | 35.85                                                                 | 37.70                                                                                            | 35.06                                                                     | 34.38                                                                                                | 32.92                                                                               | 31.88                                                                          | 36.99                                                                                               | 37.82                                                             | 30.62                                                                      | 34.87                                                                                          |
| 31                                                   | 34.63                                                  | 35.12                                                                 | 36.87                                                                                            | 34.32                                                                     | 33.62                                                                                                | 32.21                                                                               | 31.14                                                                          | 36.14                                                                                               | 37.02                                                             | 29.97                                                                      | 34.10                                                                                          |
| 32                                                   | 33.92                                                  | 34.38                                                                 | 36.03                                                                                            | 33.58                                                                     | 32.86                                                                                                | 31.49                                                                               | 30.39                                                                          | 35.29                                                                                               | 36.23                                                             | 29.33                                                                      | 33.33                                                                                          |
| 33                                                   | 33.21                                                  | 33.65                                                                 | 35.19                                                                                            | 32.83                                                                     | 32.10                                                                                                | 30.78                                                                               | 29.63                                                                          | 34.45                                                                                               | 35.44                                                             | 28.69                                                                      | 32.58                                                                                          |
| 34                                                   | 32.50                                                  | 32.91                                                                 | 34.35                                                                                            | 32.00                                                                     | 31.34                                                                                                | 30.07                                                                               | 28.87                                                                          | 33.60                                                                                               | 34.64                                                             | 28.05                                                                      | 31.82                                                                                          |
| 35                                                   | 31.78                                                  | 32.17                                                                 | 33.51                                                                                            | 31.35                                                                     | 30.58                                                                                                | 29.36                                                                               | 28.10                                                                          | 32.76                                                                                               | 33.85                                                             | 27.40                                                                      | 31.08                                                                                          |
| 36                                                   | 31.07                                                  | 31.43                                                                 | 32.67                                                                                            | 30.61                                                                     | 29.83                                                                                                | 28.65                                                                               | 27.33                                                                          | 31.92                                                                                               | 33.06                                                             | 26.76                                                                      | 30.34                                                                                          |
| 37                                                   | 30.35                                                  | 30.70                                                                 | 31.83                                                                                            | 29.88                                                                     | 29.08                                                                                                | 27.94                                                                               | 26.55                                                                          | 31.09                                                                                               | 32.26                                                             | 26.11                                                                      | 29.61                                                                                          |
| 38                                                   | 29.62                                                  | 29.96                                                                 | 30.99                                                                                            | 29.14                                                                     | 28.33                                                                                                | 27.24                                                                               | 25.78                                                                          | 30.26                                                                                               | 31.47                                                             | 25.46                                                                      | 28.88                                                                                          |
| 39                                                   | 28.90                                                  | 29.22                                                                 | 30.15                                                                                            | 28.40                                                                     | 27.58                                                                                                | 26.53                                                                               | 25.00                                                                          | 29.43                                                                                               | 30.68                                                             | 24.81                                                                      | 28.16                                                                                          |
| 40                                                   | 28.18                                                  | 28.48                                                                 | 29.32                                                                                            | 27.67                                                                     | 26.83                                                                                                | 25.83                                                                               | 24.23                                                                          | 28.61                                                                                               | 29.89                                                             | 24.16                                                                      | 27.43                                                                                          |
| 41                                                   | 27.45                                                  | 27.75                                                                 | 28.49                                                                                            | 26.94                                                                     | 26.09                                                                                                | 25.13                                                                               | 23.47                                                                          | 27.80                                                                                               | 29.10                                                             | 23.51                                                                      | 26.71                                                                                          |
| 42                                                   | 26.72                                                  | 27.01                                                                 | 27.66                                                                                            | 26.21                                                                     | 25.36                                                                                                | 24.44                                                                               | 22.72                                                                          | 26.99                                                                                               | 28.32                                                             | 22.86                                                                      | 25.99                                                                                          |
| 43                                                   | 26.00                                                  | 26.28                                                                 | 26.84                                                                                            | 25.48                                                                     | 24.62                                                                                                | 23.75                                                                               | 21.98                                                                          | 26.18                                                                                               | 27.53                                                             | 22.22                                                                      | 25.27                                                                                          |
| 44                                                   | 25.27                                                  | 25.55                                                                 | 26.03                                                                                            | 24.76                                                                     | 23.90                                                                                                | 23.06                                                                               | 21.25                                                                          | 25.39                                                                                               | 26.76                                                             | 21.67                                                                      | 24.56                                                                                          |
| 45                                                   | 24.54                                                  | 24.82                                                                 | 25.22                                                                                            | 24.04                                                                     | 23.17                                                                                                | 22.38                                                                               | 20.54                                                                          | 24.59                                                                                               | 25.98                                                             | 20.93                                                                      | 23.86                                                                                          |
| 46                                                   | 23.81                                                  | 24.09                                                                 | 24.41                                                                                            | 23.33                                                                     | 22.46                                                                                                | 21.70                                                                               | 19.84                                                                          | 23.81                                                                                               | 25.21                                                             | 20.29                                                                      | 23.16                                                                                          |
| 47                                                   | 23.08                                                  | 23.38                                                                 | 23.62                                                                                            | 22.62                                                                     | 21.75                                                                                                | 21.02                                                                               | 19.16                                                                          | 23.03                                                                                               | 24.44                                                             | 19.66                                                                      | 22.46                                                                                          |
| 48                                                   | 22.36                                                  | 22.66                                                                 | 22.83                                                                                            | 21.91                                                                     | 21.04                                                                                                | 20.34                                                                               | 18.49                                                                          | 22.27                                                                                               | 23.68                                                             | 19.02                                                                      | 21.77                                                                                          |
| 49                                                   | 21.63                                                  | 21.95                                                                 | 22.06                                                                                            | 21.22                                                                     | 20.35                                                                                                | 19.67                                                                               | 17.83                                                                          | 21.51                                                                                               | 22.92                                                             | 18.40                                                                      | 21.08                                                                                          |

\* These values were copied to the nearest second decimal, and when the published values were expectation of life instead of complete expectation of life, .5 was added to the published values at each age.

† See first footnote on p. 225.

‡ The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

## TATION OF LIFE IN YEARS.

TABLE 88

COUNTRIES; ALSO THE COMPLETE EXPECTATION OF LIFE TAKEN FROM THE LIFE TABLE FOR WHITE MALES IN TRATION STATES: 1910.

| AGE.                                                 | American Experience Mortality Table: 1860. | Thirty American Offices Life Tables: 1871. Males. * | American-Canadian Mortality Investigation: 1900-1915. American men. AM (%) | British Offices Life Tables: 1863-1893. Males. OM (%) | Four French Offices Mortality Experience: 1819-1887. Males and females. AF * | Twenty-three German Offices Life Tables: 1875. Males and females. | Three Japanese Offices Life Tables: 1905. Males. JM (%) | Seventeen Swedish Offices Life Tables: 1895-1906. Aggregate males. SM (%) † | National Fraternal Congress Mortality Table: 1898. | Standard Industrial Mortality Table: 1896-1905. Males. † | United States. Original Registration States: 1909-1911. White males. † |
|------------------------------------------------------|--------------------------------------------|-----------------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------|------------------------------------------------------------------------|
| 1                                                    | 2                                          | 3                                                   | 4                                                                          | 5                                                     | 6                                                                            | 7                                                                 | 8                                                       | 9                                                                           | 10                                                 | 11                                                       | 12                                                                     |
| COMPLETE EXPECTATION OF LIFE IN YEARS, $\bar{e}_x$ . |                                            |                                                     |                                                                            |                                                       |                                                                              |                                                                   |                                                         |                                                                             |                                                    |                                                          |                                                                        |
| 50                                                   | 20.91                                      | 21.24                                               | 21.29                                                                      | 20.52                                                 | 19.66                                                                        | 19.00                                                             | 17.19                                                   | 20.75                                                                       | 22.16                                              | 17.77                                                    | 20.39                                                                  |
| 51                                                   | 20.20                                      | 20.54                                               | 20.53                                                                      | 19.84                                                 | 18.98                                                                        | 18.35                                                             | 16.56                                                   | 20.01                                                                       | 21.41                                              | 17.16                                                    | 19.70                                                                  |
| 52                                                   | 19.49                                      | 19.84                                               | 19.79                                                                      | 19.16                                                 | 18.31                                                                        | 17.70                                                             | 15.94                                                   | 19.28                                                                       | 20.67                                              | 16.54                                                    | 19.02                                                                  |
| 53                                                   | 18.79                                      | 19.15                                               | 19.05                                                                      | 18.49                                                 | 17.64                                                                        | 17.06                                                             | 15.33                                                   | 18.56                                                                       | 19.93                                              | 15.94                                                    | 18.35                                                                  |
| 54                                                   | 18.09                                      | 18.47                                               | 18.33                                                                      | 17.82                                                 | 16.99                                                                        | 16.43                                                             | 14.74                                                   | 17.85                                                                       | 19.20                                              | 15.34                                                    | 17.68                                                                  |
| 55                                                   | 17.40                                      | 17.80                                               | 17.62                                                                      | 17.17                                                 | 16.34                                                                        | 15.81                                                             | 14.15                                                   | 17.15                                                                       | 18.48                                              | 14.75                                                    | 17.03                                                                  |
| 56                                                   | 16.72                                      | 17.13                                               | 16.93                                                                      | 16.52                                                 | 15.71                                                                        | 15.21                                                             | 13.57                                                   | 16.46                                                                       | 17.77                                              | 14.17                                                    | 16.39                                                                  |
| 57                                                   | 16.05                                      | 16.47                                               | 16.25                                                                      | 15.89                                                 | 15.09                                                                        | 14.61                                                             | 13.01                                                   | 15.78                                                                       | 17.07                                              | 13.59                                                    | 15.77                                                                  |
| 58                                                   | 15.39                                      | 15.83                                               | 15.58                                                                      | 15.26                                                 | 14.48                                                                        | 14.03                                                             | 12.46                                                   | 15.12                                                                       | 16.37                                              | 13.03                                                    | 15.16                                                                  |
| 59                                                   | 14.74                                      | 15.19                                               | 14.93                                                                      | 14.65                                                 | 13.88                                                                        | 13.46                                                             | 11.93                                                   | 14.47                                                                       | 15.69                                              | 12.47                                                    | 14.57                                                                  |
| 60                                                   | 14.10                                      | 14.56                                               | 14.29                                                                      | 14.04                                                 | 13.29                                                                        | 12.90                                                             | 11.43                                                   | 13.83                                                                       | 15.01                                              | 11.93                                                    | 13.98                                                                  |
| 61                                                   | 13.47                                      | 13.94                                               | 13.67                                                                      | 13.45                                                 | 12.71                                                                        | 12.35                                                             | 10.94                                                   | 13.21                                                                       | 14.35                                              | 11.39                                                    | 13.41                                                                  |
| 62                                                   | 12.86                                      | 13.34                                               | 13.06                                                                      | 12.87                                                 | 12.15                                                                        | 11.82                                                             | 10.47                                                   | 12.60                                                                       | 13.70                                              | 10.87                                                    | 12.85                                                                  |
| 63                                                   | 12.26                                      | 12.74                                               | 12.47                                                                      | 12.30                                                 | 11.60                                                                        | 11.30                                                             | 10.02                                                   | 12.00                                                                       | 13.06                                              | 10.36                                                    | 12.31                                                                  |
| 64                                                   | 11.67                                      | 12.16                                               | 11.90                                                                      | 11.75                                                 | 11.06                                                                        | 10.78                                                             | 9.58                                                    | 11.42                                                                       | 12.44                                              | 9.86                                                     | 11.77                                                                  |
| 65                                                   | 11.10                                      | 11.60                                               | 11.34                                                                      | 11.20                                                 | 10.54                                                                        | 10.28                                                             | 9.14                                                    | 10.85                                                                       | 11.83                                              | 9.38                                                     | 11.25                                                                  |
| 66                                                   | 10.54                                      | 11.04                                               | 10.80                                                                      | 10.68                                                 | 10.03                                                                        | 9.79                                                              | 8.70                                                    | 10.30                                                                       | 11.23                                              | 8.91                                                     | 10.75                                                                  |
| 67                                                   | 10.00                                      | 10.50                                               | 10.28                                                                      | 10.16                                                 | 9.54                                                                         | 9.31                                                              | 8.26                                                    | 9.77                                                                        | 10.65                                              | 8.45                                                     | 10.25                                                                  |
| 68                                                   | 9.47                                       | 9.97                                                | 9.77                                                                       | 9.66                                                  | 9.06                                                                         | 8.85                                                              | 7.81                                                    | 9.25                                                                        | 10.08                                              | 8.00                                                     | 9.77                                                                   |
| 69                                                   | 8.97                                       | 9.46                                                | 9.28                                                                       | 9.18                                                  | 8.60                                                                         | 8.40                                                              | 7.36                                                    | 8.74                                                                        | 9.53                                               | 7.57                                                     | 9.29                                                                   |
| 70                                                   | 8.48                                       | 8.97                                                | 8.81                                                                       | 8.71                                                  | 8.15                                                                         | 7.97                                                              | 6.92                                                    | 8.25                                                                        | 9.00                                               | 7.16                                                     | 8.83                                                                   |
| 71                                                   | 8.00                                       | 8.49                                                | 8.35                                                                       | 8.25                                                  | 7.72                                                                         | 7.56                                                              | 6.50                                                    | 7.78                                                                        | 8.48                                               | 6.76                                                     | 8.39                                                                   |
| 72                                                   | 7.55                                       | 8.02                                                | 7.91                                                                       | 7.81                                                  | 7.30                                                                         | 7.16                                                              | 6.11                                                    | 7.32                                                                        | 7.98                                               | 6.37                                                     | 7.95                                                                   |
| 73                                                   | 7.11                                       | 7.57                                                | 7.49                                                                       | 7.38                                                  | 6.90                                                                         | 6.78                                                              | 5.74                                                    | 6.88                                                                        | 7.49                                               | 6.00                                                     | 7.53                                                                   |
| 74                                                   | 6.68                                       | 7.14                                                | 7.08                                                                       | 6.97                                                  | 6.51                                                                         | 6.41                                                              | 5.40                                                    | 6.45                                                                        | 7.03                                               | 5.64                                                     | 7.13                                                                   |
| 75                                                   | 6.27                                       | 6.72                                                | 6.69                                                                       | 6.58                                                  | 6.14                                                                         | 6.05                                                              | 5.08                                                    | 6.04                                                                        | 6.58                                               | 5.30                                                     | 6.75                                                                   |
| 76                                                   | 5.88                                       | 6.32                                                | 6.32                                                                       | 6.20                                                  | 5.78                                                                         | 5.72                                                              | 4.79                                                    | 5.65                                                                        | 6.15                                               | 4.97                                                     | 6.38                                                                   |
| 77                                                   | 5.49                                       | 5.93                                                | 5.96                                                                       | 5.84                                                  | 5.44                                                                         | 5.39                                                              | 4.51                                                    | 5.26                                                                        | 5.73                                               | 4.66                                                     | 6.04                                                                   |
| 78                                                   | 5.11                                       | 5.57                                                | 5.62                                                                       | 5.49                                                  | 5.11                                                                         | 5.08                                                              | 4.24                                                    | 4.90                                                                        | 5.33                                               | 4.36                                                     | 5.71                                                                   |
| 79                                                   | 4.74                                       | 5.21                                                | 5.30                                                                       | 5.15                                                  | 4.80                                                                         | 4.77                                                              | 3.98                                                    | 4.54                                                                        | 4.96                                               | 4.08                                                     | 5.39                                                                   |
| 80                                                   | 4.39                                       | 4.87                                                | 4.99                                                                       | 4.84                                                  | 4.50                                                                         | 4.48                                                              | 3.73                                                    | 4.19                                                                        | 4.59                                               | 3.81                                                     | 5.09                                                                   |
| 81                                                   | 4.05                                       | 4.55                                                | 4.69                                                                       | 4.53                                                  | 4.22                                                                         | 4.21                                                              | 3.49                                                    | 3.86                                                                        | 4.25                                               | 3.55                                                     | 4.81                                                                   |
| 82                                                   | 3.71                                       | 4.24                                                | 4.41                                                                       | 4.25                                                  | 3.95                                                                         | 3.97                                                              | 3.27                                                    | 3.53                                                                        | 3.92                                               | 3.31                                                     | 4.56                                                                   |
| 83                                                   | 3.39                                       | 3.93                                                | 4.14                                                                       | 3.97                                                  | 3.70                                                                         | 3.76                                                              | 3.05                                                    | 3.20                                                                        | 3.61                                               | 3.08                                                     | 4.32                                                                   |
| 84                                                   | 3.08                                       | 3.67                                                | 3.89                                                                       | 3.71                                                  | 3.46                                                                         | 3.56                                                              | 2.85                                                    | 2.86                                                                        | 3.32                                               | 2.87                                                     | 4.10                                                                   |
| 85                                                   | 2.77                                       | 3.40                                                | 3.65                                                                       | 3.47                                                  | 3.23                                                                         | 3.38                                                              | 2.66                                                    | 2.52                                                                        | 3.04                                               | 2.67                                                     | 3.88                                                                   |
| 86                                                   | 2.47                                       | 3.14                                                | 3.42                                                                       | 3.23                                                  | 3.01                                                                         | 3.21                                                              | 2.48                                                    | 2.14                                                                        | 2.78                                               | 2.48                                                     | 3.68                                                                   |
| 87                                                   | 2.18                                       | 2.89                                                | 3.21                                                                       | 3.01                                                  | 2.81                                                                         | 3.01                                                              | 2.31                                                    | 1.71                                                                        | 2.54                                               | 2.30                                                     | 3.49                                                                   |
| 88                                                   | 1.91                                       | 2.64                                                | 3.00                                                                       | 2.81                                                  | 2.62                                                                         | 2.77                                                              | 2.15                                                    | 1.19                                                                        | 2.31                                               | 2.14                                                     | 3.31                                                                   |
| 89                                                   | 1.66                                       | 2.39                                                | 2.81                                                                       | 2.61                                                  | 2.44                                                                         | 2.48                                                              | 2.00                                                    | .50                                                                         | 2.09                                               | 1.98                                                     | 3.15                                                                   |
| 90                                                   | 1.42                                       | 2.17                                                | 2.63                                                                       | 2.43                                                  | 2.27                                                                         | .....                                                             | 1.86                                                    | .....                                                                       | 1.89                                               | 1.84                                                     | 2.99                                                                   |
| 91                                                   | 1.19                                       | 1.98                                                | 2.46                                                                       | 2.26                                                  | 2.11                                                                         | .....                                                             | 1.72                                                    | .....                                                                       | 1.70                                               | 1.72                                                     | 2.84                                                                   |
| 92                                                   | .98                                        | 1.81                                                | 2.30                                                                       | 2.10                                                  | 1.97                                                                         | .....                                                             | 1.60                                                    | .....                                                                       | 1.52                                               | 1.60                                                     | 2.70                                                                   |
| 93                                                   | .80                                        | 1.64                                                | 2.15                                                                       | 1.95                                                  | 1.83                                                                         | .....                                                             | 1.48                                                    | .....                                                                       | 1.36                                               | 1.50                                                     | 2.57                                                                   |
| 94                                                   | .64                                        | 1.49                                                | 2.01                                                                       | 1.81                                                  | 1.70                                                                         | .....                                                             | 1.34                                                    | .....                                                                       | 1.21                                               | 1.37                                                     | 2.44                                                                   |
| 95                                                   | .50                                        | 1.34                                                | 1.87                                                                       | 1.69                                                  | 1.58                                                                         | .....                                                             | 1.23                                                    | .....                                                                       | 1.08                                               | 1.23                                                     | 2.31                                                                   |
| 96                                                   | .....                                      | 1.18                                                | 1.74                                                                       | 1.57                                                  | 1.47                                                                         | .....                                                             | 1.07                                                    | .....                                                                       | .95                                                | 1.07                                                     | 2.19                                                                   |
| 97                                                   | .....                                      | 1.03                                                | 1.61                                                                       | 1.47                                                  | 1.37                                                                         | .....                                                             | .83                                                     | .....                                                                       | .80                                                | .83                                                      | 2.06                                                                   |
| 98                                                   | .....                                      | .83                                                 | 1.50                                                                       | 1.37                                                  | 1.27                                                                         | .....                                                             | .50                                                     | .....                                                                       | .50                                                | .50                                                      | 1.93                                                                   |
| 99                                                   | .....                                      | .50                                                 | 1.34                                                                       | 1.23                                                  | 1.19                                                                         | .....                                                             | .....                                                   | .....                                                                       | .....                                              | .....                                                    | 1.80                                                                   |
| 100                                                  | .....                                      | .....                                               | 1.19                                                                       | 1.07                                                  | 1.10                                                                         | .....                                                             | .....                                                   | .....                                                                       | .....                                              | .....                                                    | 1.68                                                                   |

\* These values were copied to the nearest second decimal, and when the published values were expectation of life instead of complete expectation of life, .5 was added to the published values at each age.

† See first footnote on p. 225.

‡ The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

TABLE 90

## INSURED LIVES.\* NUMBER OF SURVIVORS OUT OF

BASED ON MORTALITY TABLES DERIVED FROM THE EXPERIENCE OF LIFE INSURANCE COMPANIES IN VARIOUS ORIGINAL REGISTRA

| AGE.                         | American<br>Experience<br>Mortality<br>Table:<br>1860. | Thirty<br>American<br>Offices Life<br>Tables:<br>1874.<br>Males. | American-<br>Canadian<br>Mortality<br>Investigation:<br>1900-1915.<br>American<br>men.<br>AM (6) | British<br>Offices Life<br>Tables:<br>1864-1893.<br>Males.<br>OM (6) | Four French<br>Offices<br>Mortality<br>Experience:<br>1819-1887.<br>Males and<br>females.<br>AF | Twenty-three<br>German<br>Offices Life<br>Tables:<br>1875.<br>Males and<br>females. | Three<br>Japanese<br>Offices Life<br>Tables:<br>1905.<br>Males.<br>JM (6) | Seventeen<br>Swedish<br>Offices Life<br>Tables:<br>1895-1906.<br>Aggregate<br>males.<br>PM <sup>b</sup> | National<br>Fraternal<br>Congress<br>Mortality<br>Table:<br>1898. | Standard<br>Industrial<br>Mortality<br>Table:<br>1896-1905.<br>Males. | United<br>States.<br>Original<br>Registration<br>States:<br>1909-1911.<br>White<br>males.<br>† |
|------------------------------|--------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| 1                            | 2                                                      | 3                                                                | 4                                                                                                | 5                                                                    | 6                                                                                               | 7                                                                                   | 8                                                                         | 9                                                                                                       | 10                                                                | 11                                                                    | 12                                                                                             |
| NUMBER OF SURVIVORS, $l_x$ . |                                                        |                                                                  |                                                                                                  |                                                                      |                                                                                                 |                                                                                     |                                                                           |                                                                                                         |                                                                   |                                                                       |                                                                                                |
| 0                            |                                                        |                                                                  |                                                                                                  |                                                                      | 1,000,000                                                                                       |                                                                                     |                                                                           |                                                                                                         |                                                                   |                                                                       | 100,000                                                                                        |
| 1                            |                                                        |                                                                  |                                                                                                  |                                                                      | 943,985                                                                                         |                                                                                     |                                                                           |                                                                                                         |                                                                   |                                                                       | 87,674                                                                                         |
| 2                            |                                                        |                                                                  |                                                                                                  |                                                                      | 937,488                                                                                         |                                                                                     |                                                                           |                                                                                                         |                                                                   | 100,000                                                               | 85,201                                                                                         |
| 3                            |                                                        |                                                                  |                                                                                                  |                                                                      | 917,939                                                                                         |                                                                                     |                                                                           |                                                                                                         |                                                                   | 96,533                                                                | 84,117                                                                                         |
| 4                            |                                                        |                                                                  |                                                                                                  |                                                                      | 903,486                                                                                         |                                                                                     |                                                                           |                                                                                                         |                                                                   | 91,364                                                                | 83,449                                                                                         |
| 5                            |                                                        |                                                                  |                                                                                                  |                                                                      | 892,765                                                                                         |                                                                                     |                                                                           |                                                                                                         |                                                                   | 93,116                                                                | 82,972                                                                                         |
| 6                            |                                                        |                                                                  |                                                                                                  |                                                                      | 881,754                                                                                         |                                                                                     |                                                                           |                                                                                                         |                                                                   | 92,235                                                                | 82,581                                                                                         |
| 7                            |                                                        |                                                                  |                                                                                                  |                                                                      | 878,676                                                                                         |                                                                                     |                                                                           |                                                                                                         |                                                                   | 91,571                                                                | 82,251                                                                                         |
| 8                            |                                                        |                                                                  |                                                                                                  |                                                                      | 873,932                                                                                         |                                                                                     |                                                                           |                                                                                                         |                                                                   | 91,026                                                                | 81,971                                                                                         |
| 9                            |                                                        |                                                                  |                                                                                                  |                                                                      | 870,056                                                                                         |                                                                                     |                                                                           |                                                                                                         |                                                                   | 90,581                                                                | 81,731                                                                                         |
| 10                           | 100,000                                                | 100,000                                                          |                                                                                                  | 107,324                                                              | 866,684                                                                                         |                                                                                     | 108,537                                                                   |                                                                                                         |                                                                   | 90,213                                                                | 81,519                                                                                         |
| 11                           | 99,251                                                 | 99,352                                                           |                                                                                                  | 106,666                                                              | 863,529                                                                                         |                                                                                     | 107,772                                                                   |                                                                                                         |                                                                   | 89,903                                                                | 81,325                                                                                         |
| 12                           | 98,505                                                 | 98,708                                                           |                                                                                                  | 106,008                                                              | 860,371                                                                                         |                                                                                     | 107,001                                                                   |                                                                                                         |                                                                   | 89,629                                                                | 81,140                                                                                         |
| 13                           | 97,762                                                 | 98,063                                                           |                                                                                                  | 105,352                                                              | 857,043                                                                                         |                                                                                     | 106,214                                                                   |                                                                                                         |                                                                   | 89,371                                                                | 80,954                                                                                         |
| 14                           | 97,022                                                 | 97,422                                                           |                                                                                                  | 104,697                                                              | 853,426                                                                                         |                                                                                     | 105,403                                                                   |                                                                                                         |                                                                   | 89,108                                                                | 80,759                                                                                         |
| 15                           | 96,285                                                 | 96,782                                                           | 100,000                                                                                          | 104,043                                                              | 849,146                                                                                         |                                                                                     | 104,554                                                                   | 100,000                                                                                                 |                                                                   | 88,826                                                                | 80,549                                                                                         |
| 16                           | 95,550                                                 | 96,144                                                           | 99,654                                                                                           | 103,389                                                              | 845,069                                                                                         |                                                                                     | 103,653                                                                   | 99,723                                                                                                  |                                                                   | 88,508                                                                | 80,321                                                                                         |
| 17                           | 94,818                                                 | 95,508                                                           | 99,302                                                                                           | 102,735                                                              | 840,298                                                                                         | 102,787                                                                             | 102,687                                                                   | 99,143                                                                                                  |                                                                   | 88,114                                                                | 80,068                                                                                         |
| 18                           | 94,089                                                 | 94,873                                                           | 98,942                                                                                           | 102,080                                                              | 835,173                                                                                         | 101,878                                                                             | 101,649                                                                   | 98,159                                                                                                  |                                                                   | 87,723                                                                | 79,785                                                                                         |
| 19                           | 93,362                                                 | 94,239                                                           | 98,575                                                                                           | 101,425                                                              | 829,762                                                                                         | 100,912                                                                             | 100,542                                                                   | 98,870                                                                                                  |                                                                   | 87,241                                                                | 79,467                                                                                         |
| 20                           | 92,637                                                 | 93,606                                                           | 98,199                                                                                           | 100,770                                                              | 824,159                                                                                         | 100,000                                                                             | 99,380                                                                    | 98,577                                                                                                  | 100,000                                                           | 86,699                                                                | 79,116                                                                                         |
| 21                           | 91,914                                                 | 92,973                                                           | 97,814                                                                                           | 100,113                                                              | 818,471                                                                                         | 99,081                                                                              | 98,188                                                                    | 98,279                                                                                                  | 99,500                                                            | 86,100                                                                | 78,729                                                                                         |
| 22                           | 91,192                                                 | 92,340                                                           | 97,421                                                                                           | 99,453                                                               | 812,809                                                                                         | 98,173                                                                              | 96,995                                                                    | 97,975                                                                                                  | 98,999                                                            | 85,440                                                                | 78,316                                                                                         |
| 23                           | 90,471                                                 | 91,707                                                           | 97,020                                                                                           | 98,792                                                               | 807,271                                                                                         | 97,286                                                                              | 95,833                                                                    | 97,665                                                                                                  | 98,497                                                            | 84,753                                                                | 77,894                                                                                         |
| 24                           | 89,751                                                 | 91,073                                                           | 96,614                                                                                           | 98,128                                                               | 801,926                                                                                         | 96,425                                                                              | 94,727                                                                    | 97,349                                                                                                  | 97,094                                                            | 84,021                                                                | 77,472                                                                                         |
| 25                           | 89,032                                                 | 90,438                                                           | 96,203                                                                                           | 97,461                                                               | 796,786                                                                                         | 95,590                                                                              | 93,693                                                                    | 97,025                                                                                                  | 97,489                                                            | 83,257                                                                | 77,047                                                                                         |
| 26                           | 88,314                                                 | 89,802                                                           | 95,788                                                                                           | 96,789                                                               | 791,780                                                                                         | 94,774                                                                              | 92,734                                                                    | 96,693                                                                                                  | 96,982                                                            | 82,461                                                                | 76,621                                                                                         |
| 27                           | 87,596                                                 | 89,163                                                           | 95,371                                                                                           | 96,113                                                               | 786,713                                                                                         | 93,970                                                                              | 91,847                                                                    | 96,353                                                                                                  | 96,472                                                            | 81,644                                                                | 76,189                                                                                         |
| 28                           | 86,878                                                 | 88,522                                                           | 94,952                                                                                           | 95,432                                                               | 781,578                                                                                         | 93,173                                                                              | 91,018                                                                    | 96,002                                                                                                  | 95,959                                                            | 80,799                                                                | 75,746                                                                                         |
| 29                           | 86,160                                                 | 87,878                                                           | 94,533                                                                                           | 94,744                                                               | 776,368                                                                                         | 92,378                                                                              | 90,235                                                                    | 95,641                                                                                                  | 95,442                                                            | 79,926                                                                | 75,286                                                                                         |
| 30                           | 85,441                                                 | 87,229                                                           | 94,114                                                                                           | 94,050                                                               | 771,075                                                                                         | 91,578                                                                              | 89,481                                                                    | 95,269                                                                                                  | 94,920                                                            | 79,028                                                                | 74,810                                                                                         |
| 31                           | 84,721                                                 | 86,576                                                           | 93,691                                                                                           | 93,347                                                               | 765,690                                                                                         | 90,770                                                                              | 88,747                                                                    | 94,884                                                                                                  | 94,393                                                            | 78,111                                                                | 74,316                                                                                         |
| 32                           | 84,000                                                 | 85,918                                                           | 93,274                                                                                           | 92,630                                                               | 760,203                                                                                         | 89,952                                                                              | 88,026                                                                    | 94,465                                                                                                  | 93,860                                                            | 77,178                                                                | 73,801                                                                                         |
| 33                           | 83,277                                                 | 85,254                                                           | 92,853                                                                                           | 91,916                                                               | 754,606                                                                                         | 89,121                                                                              | 87,313                                                                    | 94,071                                                                                                  | 93,320                                                            | 76,230                                                                | 73,261                                                                                         |
| 34                           | 82,551                                                 | 84,583                                                           | 92,427                                                                                           | 91,154                                                               | 748,687                                                                                         | 88,280                                                                              | 86,606                                                                    | 93,641                                                                                                  | 92,772                                                            | 75,278                                                                | 72,697                                                                                         |
| 35                           | 81,822                                                 | 83,904                                                           | 91,994                                                                                           | 90,440                                                               | 743,036                                                                                         | 87,424                                                                              | 85,901                                                                    | 93,193                                                                                                  | 92,215                                                            | 74,319                                                                | 72,108                                                                                         |
| 36                           | 81,090                                                 | 83,215                                                           | 91,551                                                                                           | 89,683                                                               | 737,039                                                                                         | 86,551                                                                              | 85,198                                                                    | 92,726                                                                                                  | 91,648                                                            | 73,354                                                                | 71,494                                                                                         |
| 37                           | 80,353                                                 | 82,517                                                           | 91,102                                                                                           | 88,912                                                               | 730,884                                                                                         | 85,662                                                                              | 84,490                                                                    | 92,238                                                                                                  | 91,070                                                            | 72,384                                                                | 70,858                                                                                         |
| 38                           | 79,611                                                 | 81,808                                                           | 90,636                                                                                           | 88,124                                                               | 724,556                                                                                         | 84,756                                                                              | 83,769                                                                    | 91,728                                                                                                  | 90,479                                                            | 71,405                                                                | 70,204                                                                                         |
| 39                           | 78,862                                                 | 81,086                                                           | 90,154                                                                                           | 87,318                                                               | 718,042                                                                                         | 83,828                                                                              | 83,027                                                                    | 91,193                                                                                                  | 89,873                                                            | 70,415                                                                | 69,534                                                                                         |
| 40                           | 78,106                                                 | 80,350                                                           | 89,653                                                                                           | 86,493                                                               | 711,324                                                                                         | 82,878                                                                              | 82,253                                                                    | 90,631                                                                                                  | 89,251                                                            | 69,413                                                                | 68,848                                                                                         |
| 41                           | 77,341                                                 | 79,598                                                           | 89,129                                                                                           | 85,647                                                               | 704,386                                                                                         | 81,903                                                                              | 81,437                                                                    | 90,040                                                                                                  | 88,611                                                            | 68,396                                                                | 68,144                                                                                         |
| 42                           | 76,567                                                 | 78,830                                                           | 88,580                                                                                           | 84,778                                                               | 697,210                                                                                         | 80,897                                                                              | 80,568                                                                    | 89,417                                                                                                  | 87,951                                                            | 67,364                                                                | 67,422                                                                                         |
| 43                           | 75,782                                                 | 78,042                                                           | 88,001                                                                                           | 83,883                                                               | 689,777                                                                                         | 79,862                                                                              | 79,637                                                                    | 88,761                                                                                                  | 87,268                                                            | 66,315                                                                | 66,678                                                                                         |
| 44                           | 74,985                                                 | 77,234                                                           | 87,399                                                                                           | 82,961                                                               | 682,067                                                                                         | 78,799                                                                              | 78,637                                                                    | 88,068                                                                                                  | 86,500                                                            | 65,247                                                                | 65,909                                                                                         |
| 45                           | 74,173                                                 | 76,403                                                           | 86,742                                                                                           | 82,010                                                               | 674,058                                                                                         | 77,707                                                                              | 77,563                                                                    | 87,334                                                                                                  | 85,826                                                            | 64,157                                                                | 65,115                                                                                         |
| 46                           | 73,345                                                 | 75,547                                                           | 86,053                                                                                           | 81,020                                                               | 665,729                                                                                         | 76,590                                                                              | 76,411                                                                    | 86,558                                                                                                  | 85,065                                                            | 63,044                                                                | 64,292                                                                                         |
| 47                           | 72,497                                                 | 74,664                                                           | 85,320                                                                                           | 80,008                                                               | 657,056                                                                                         | 75,450                                                                              | 75,181                                                                    | 85,736                                                                                                  | 84,275                                                            | 61,905                                                                | 63,440                                                                                         |
| 48                           | 71,627                                                 | 73,751                                                           | 84,537                                                                                           | 78,952                                                               | 648,015                                                                                         | 74,281                                                                              | 73,872                                                                    | 84,864                                                                                                  | 83,453                                                            | 60,740                                                                | 62,563                                                                                         |
| 49                           | 70,731                                                 | 72,806                                                           | 83,701                                                                                           | 77,856                                                               | 638,581                                                                                         | 73,077                                                                              | 72,484                                                                    | 83,935                                                                                                  | 82,596                                                            | 59,544                                                                | 61,563                                                                                         |

\* See sec. 91, p. 225.

† The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

## NUMBER ALIVE BY ORIGINAL RADIX OF EACH TABLE.\*

TABLE 90

COUNTRIES: ALSO THE NUMBER OF SURVIVORS TAKEN FROM THE LIFE TABLE FOR WHITE MALES IN THE UNION STATES: 1910.

| AGE.                         | American Experience Mortality Table: 1860. | Thirty American Offices Life Tables: 1871. Males. | American-Canadian Mortality Investigation: 1900-1915. American men. AMC. | British Offices Life Tables: 1863-1891. Males. OM (S) | Four French Offices Mortality Experience: 1819-1887. Males and females. AF | Twenty-three German Offices Life Tables: 1875. Males and females. | Three Japanese Offices Life Tables: 1905. Males. JM (S) | Seventeen Swedish Offices Life Tables: 1895-1906. Aggregate males. SM. | National Fraternal Congress Mortality Table: 1898. | Standard Industrial Mortality Table: 1896-1905. Males. | United States. Original Registration States: 1900-1911. White males. † |
|------------------------------|--------------------------------------------|---------------------------------------------------|--------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------------|
| 1                            | 2                                          | 3                                                 | 4                                                                        | 5                                                     | 6                                                                          | 7                                                                 | 8                                                       | 9                                                                      | 10                                                 | 11                                                     | 12                                                                     |
| NUMBER OF SURVIVORS, $L_x$ . |                                            |                                                   |                                                                          |                                                       |                                                                            |                                                                   |                                                         |                                                                        |                                                    |                                                        |                                                                        |
| 50                           | 69,804                                     | 71,826                                            | 82,805                                                                   | 76,717                                                | 628,727                                                                    | 71,831                                                            | 71,017                                                  | 82,955                                                                 | 81,702                                             | 58,316                                                 | 60,741                                                                 |
| 51                           | 68,842                                     | 70,808                                            | 81,846                                                                   | 75,532                                                | 618,429                                                                    | 70,528                                                            | 69,475                                                  | 81,911                                                                 | 80,767                                             | 57,054                                                 | 59,798                                                                 |
| 52                           | 67,811                                     | 69,719                                            | 80,820                                                                   | 74,298                                                | 607,659                                                                    | 69,166                                                            | 67,864                                                  | 80,801                                                                 | 79,786                                             | 55,755                                                 | 58,827                                                                 |
| 53                           | 66,797                                     | 68,646                                            | 79,719                                                                   | 73,012                                                | 596,389                                                                    | 67,741                                                            | 66,188                                                  | 79,621                                                                 | 78,757                                             | 54,416                                                 | 57,813                                                                 |
| 54                           | 65,706                                     | 67,196                                            | 78,511                                                                   | 71,609                                                | 584,594                                                                    | 66,251                                                            | 64,448                                                  | 78,367                                                                 | 77,674                                             | 53,037                                                 | 56,748                                                                 |
| 55                           | 64,563                                     | 66,296                                            | 77,278                                                                   | 70,267                                                | 572,246                                                                    | 64,695                                                            | 62,642                                                  | 77,035                                                                 | 76,534                                             | 51,614                                                 | 55,622                                                                 |
| 56                           | 63,364                                     | 65,041                                            | 75,928                                                                   | 68,803                                                | 559,322                                                                    | 63,074                                                            | 60,760                                                  | 75,620                                                                 | 75,332                                             | 50,145                                                 | 54,126                                                                 |
| 57                           | 62,104                                     | 63,729                                            | 74,484                                                                   | 67,274                                                | 545,797                                                                    | 61,383                                                            | 58,704                                                  | 74,117                                                                 | 74,062                                             | 48,629                                                 | 53,158                                                                 |
| 58                           | 60,779                                     | 62,355                                            | 72,943                                                                   | 65,676                                                | 531,649                                                                    | 59,624                                                            | 56,732                                                  | 72,522                                                                 | 72,720                                             | 47,063                                                 | 51,825                                                                 |
| 59                           | 59,385                                     | 60,917                                            | 71,301                                                                   | 64,007                                                | 516,861                                                                    | 57,792                                                            | 54,571                                                  | 70,832                                                                 | 71,302                                             | 45,448                                                 | 50,435                                                                 |
| 60                           | 57,917                                     | 59,412                                            | 69,555                                                                   | 62,265                                                | 501,417                                                                    | 55,892                                                            | 52,312                                                  | 69,042                                                                 | 69,801                                             | 43,782                                                 | 48,957                                                                 |
| 61                           | 56,371                                     | 57,836                                            | 67,699                                                                   | 60,446                                                | 483,307                                                                    | 53,916                                                            | 49,963                                                  | 67,149                                                                 | 68,213                                             | 42,065                                                 | 47,181                                                                 |
| 62                           | 54,743                                     | 56,186                                            | 65,734                                                                   | 58,549                                                | 468,525                                                                    | 51,878                                                            | 47,538                                                  | 65,151                                                                 | 66,532                                             | 40,297                                                 | 45,916                                                                 |
| 63                           | 53,030                                     | 54,461                                            | 63,658                                                                   | 56,574                                                | 451,075                                                                    | 49,781                                                            | 45,062                                                  | 63,045                                                                 | 64,754                                             | 38,180                                                 | 44,291                                                                 |
| 64                           | 51,230                                     | 52,658                                            | 61,170                                                                   | 54,519                                                | 432,964                                                                    | 47,632                                                            | 42,369                                                  | 60,830                                                                 | 62,874                                             | 36,616                                                 | 42,604                                                                 |
| 65                           | 49,341                                     | 50,776                                            | 59,172                                                                   | 52,386                                                | 414,214                                                                    | 45,435                                                            | 40,080                                                  | 58,506                                                                 | 60,589                                             | 34,708                                                 | 40,862                                                                 |
| 66                           | 47,361                                     | 48,814                                            | 56,766                                                                   | 50,175                                                | 394,851                                                                    | 43,189                                                            | 37,650                                                  | 56,074                                                                 | 58,795                                             | 32,760                                                 | 39,073                                                                 |
| 67                           | 45,291                                     | 46,774                                            | 54,258                                                                   | 47,890                                                | 374,918                                                                    | 40,887                                                            | 35,262                                                  | 53,538                                                                 | 56,589                                             | 30,777                                                 | 37,241                                                                 |
| 68                           | 43,133                                     | 44,656                                            | 51,652                                                                   | 45,535                                                | 354,468                                                                    | 38,532                                                            | 32,921                                                  | 50,902                                                                 | 54,271                                             | 28,767                                                 | 35,371                                                                 |
| 69                           | 40,890                                     | 42,466                                            | 48,958                                                                   | 43,114                                                | 333,567                                                                    | 36,133                                                            | 30,605                                                  | 48,173                                                                 | 51,841                                             | 26,738                                                 | 33,464                                                                 |
| 70                           | 38,569                                     | 40,205                                            | 46,185                                                                   | 40,636                                                | 312,299                                                                    | 33,701                                                            | 28,286                                                  | 45,359                                                                 | 49,302                                             | 24,700                                                 | 31,527                                                                 |
| 71                           | 36,178                                     | 37,882                                            | 43,346                                                                   | 38,109                                                | 290,759                                                                    | 31,249                                                            | 25,943                                                  | 42,471                                                                 | 46,637                                             | 22,663                                                 | 29,568                                                                 |
| 72                           | 33,730                                     | 35,504                                            | 40,455                                                                   | 35,544                                                | 269,062                                                                    | 28,794                                                            | 23,570                                                  | 39,524                                                                 | 43,913                                             | 20,640                                                 | 27,590                                                                 |
| 73                           | 31,243                                     | 33,082                                            | 37,529                                                                   | 32,953                                                | 247,333                                                                    | 26,358                                                            | 21,182                                                  | 36,534                                                                 | 41,081                                             | 18,645                                                 | 25,595                                                                 |
| 74                           | 28,738                                     | 30,629                                            | 34,587                                                                   | 30,351                                                | 225,714                                                                    | 23,952                                                            | 18,813                                                  | 33,520                                                                 | 38,172                                             | 16,693                                                 | 23,590                                                                 |
| 75                           | 26,237                                     | 28,157                                            | 31,650                                                                   | 27,755                                                | 204,359                                                                    | 21,592                                                            | 16,506                                                  | 30,503                                                                 | 35,203                                             | 14,800                                                 | 21,585                                                                 |
| 76                           | 23,761                                     | 25,685                                            | 28,710                                                                   | 25,183                                                | 183,430                                                                    | 19,283                                                            | 14,305                                                  | 27,508                                                                 | 32,194                                             | 12,980                                                 | 19,588                                                                 |
| 77                           | 21,330                                     | 23,232                                            | 25,880                                                                   | 22,654                                                | 163,096                                                                    | 17,083                                                            | 12,246                                                  | 24,560                                                                 | 29,168                                             | 11,250                                                 | 17,622                                                                 |
| 78                           | 18,961                                     | 20,816                                            | 23,094                                                                   | 20,188                                                | 143,530                                                                    | 14,980                                                            | 10,355                                                  | 21,637                                                                 | 26,152                                             | 9,625                                                  | 15,718                                                                 |
| 79                           | 16,670                                     | 18,460                                            | 20,408                                                                   | 17,807                                                | 124,896                                                                    | 12,998                                                            | 8,642                                                   | 18,918                                                                 | 23,175                                             | 8,118                                                  | 13,897                                                                 |
| 80                           | 14,474                                     | 16,186                                            | 17,843                                                                   | 15,531                                                | 107,354                                                                    | 11,150                                                            | 7,110                                                   | 16,281                                                                 | 20,270                                             | 6,741                                                  | 12,160                                                                 |
| 81                           | 12,383                                     | 14,016                                            | 15,421                                                                   | 13,380                                                | 91,047                                                                     | 9,420                                                             | 5,756                                                   | 13,803                                                                 | 17,471                                             | 5,502                                                  | 10,509                                                                 |
| 82                           | 10,419                                     | 11,972                                            | 13,163                                                                   | 11,373                                                | 76,094                                                                     | 7,821                                                             | 4,575                                                   | 11,509                                                                 | 14,812                                             | 4,407                                                  | 8,962                                                                  |
| 83                           | 8,603                                      | 10,072                                            | 11,085                                                                   | 9,526                                                 | 62,588                                                                     | 6,378                                                             | 3,564                                                   | 9,420                                                                  | 12,327                                             | 3,457                                                  | 7,543                                                                  |
| 84                           | 6,955                                      | 8,335                                             | 9,200                                                                    | 7,852                                                 | 50,588                                                                     | 5,114                                                             | 2,715                                                   | 7,552                                                                  | 10,047                                             | 2,651                                                  | 6,272                                                                  |
| 85                           | 5,485                                      | 6,772                                             | 7,515                                                                    | 6,359                                                 | 40,118                                                                     | 4,034                                                             | 2,020                                                   | 5,916                                                                  | 7,997                                              | 1,983                                                  | 5,145                                                                  |
| 86                           | 4,193                                      | 5,393                                             | 6,034                                                                    | 5,051                                                 | 31,159                                                                     | 3,138                                                             | 1,463                                                   | 4,516                                                                  | 6,197                                              | 1,443                                                  | 4,162                                                                  |
| 87                           | 3,079                                      | 4,202                                             | 4,756                                                                    | 3,929                                                 | 23,658                                                                     | 2,423                                                             | 1,030                                                   | 3,348                                                                  | 4,658                                              | 1,019                                                  | 3,317                                                                  |
| 88                           | 2,146                                      | 3,194                                             | 3,675                                                                    | 2,986                                                 | 17,523                                                                     | 1,857                                                             | 703                                                     | 2,402                                                                  | 3,381                                              | 697                                                    | 2,602                                                                  |
| 89                           | 1,402                                      | 2,365                                             | 2,778                                                                    | 2,213                                                 | 12,632                                                                     | 1,415                                                             | 464                                                     | 1,661                                                                  | 2,358                                              | 459                                                    | 2,008                                                                  |
| 90                           | 847                                        | 1,673                                             | 2,051                                                                    | 1,596                                                 | 8,841                                                                      | .....                                                             | 293                                                     | .....                                                                  | 1,570                                              | 291                                                    | 1,523                                                                  |
| 91                           | 462                                        | 1,124                                             | 1,476                                                                    | 1,116                                                 | 5,992                                                                      | .....                                                             | 180                                                     | .....                                                                  | 991                                                | 176                                                    | 1,134                                                                  |
| 92                           | 216                                        | 721                                               | 1,034                                                                    | 756                                                   | 3,920                                                                      | .....                                                             | 105                                                     | .....                                                                  | 587                                                | 102                                                    | 829                                                                    |
| 93                           | 79                                         | 440                                               | 702                                                                      | 493                                                   | 2,468                                                                      | .....                                                             | 58                                                      | .....                                                                  | 323                                                | 56                                                     | 595                                                                    |
| 94                           | 21                                         | 253                                               | 462                                                                      | 310                                                   | 1,490                                                                      | .....                                                             | 31                                                      | .....                                                                  | 162                                                | 30                                                     | 419                                                                    |
| 95                           | 3                                          | 136                                               | 294                                                                      | 186                                                   | 859                                                                        | .....                                                             | 15                                                      | .....                                                                  | 73                                                 | 15                                                     | 289                                                                    |
| 96                           | .....                                      | 68                                                | 180                                                                      | 107                                                   | 471                                                                        | .....                                                             | 7                                                       | .....                                                                  | 29                                                 | 7                                                      | 195                                                                    |
| 97                           | .....                                      | 30                                                | 106                                                                      | 58                                                    | 245                                                                        | .....                                                             | 3                                                       | .....                                                                  | 10                                                 | 3                                                      | 129                                                                    |
| 98                           | .....                                      | 12                                                | 59                                                                       | 30                                                    | 120                                                                        | .....                                                             | 1                                                       | .....                                                                  | 3                                                  | 1                                                      | 82                                                                     |
| 99                           | .....                                      | 4                                                 | 32                                                                       | 15                                                    | 55                                                                         | .....                                                             | .....                                                   | .....                                                                  | .....                                              | .....                                                  | 51                                                                     |
| 100                          | .....                                      | .....                                             | 16                                                                       | 7                                                     | 23                                                                         | .....                                                             | .....                                                   | .....                                                                  | .....                                              | .....                                                  | 31                                                                     |

\* See sec. 91, p. 225.

† The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

TABLE 91

INSURED LIVES. NUMBER OF DEATHS OUT OF  
 BASED ON MORTALITY TABLES DERIVED FROM THE EXPERIENCE OF LIFE INSURANCE COMPANIES IN VARIOUS  
 ORIGINAL REGISTRA

| AGE.                      | American<br>Experience<br>Mortality<br>Table:<br>1860. | Thirty<br>American<br>Offices Life<br>Tables:<br>1874.<br>Males. | American-<br>Canadian<br>Mortality.<br>Investigation:<br>1900-1915.<br>American<br>men.<br>AM(6) | British<br>Offices Life<br>Tables:<br>1863-1893.<br>Males.<br>OM(6) | Four French<br>Offices<br>Mortality<br>Experience:<br>1819-1887.<br>Males and<br>females.<br>AF | Twenty-three<br>German<br>Offices Life<br>Tables:<br>1875.<br>Males and<br>females. | Three<br>Japanese<br>Offices Life<br>Tables:<br>1905.<br>Males.<br>JM(6) | Seventeen<br>Swedish<br>Offices Life<br>Tables:<br>1895-1906.<br>Aggregate<br>males.<br>PM(6)* | National<br>Fraternal<br>Congress<br>Mortality<br>Table:<br>1898.<br>* | Standard<br>Industrial<br>Mortality<br>Table:<br>1896-1905.<br>Males. | United<br>States.<br>Original<br>Registration<br>States:<br>1909-1911.<br>White<br>males.<br>† |
|---------------------------|--------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| 1                         | 2                                                      | 3                                                                | 4                                                                                                | 5                                                                   | 6                                                                                               | 7                                                                                   | 8                                                                        | 9                                                                                              | 10                                                                     | 11                                                                    | 12                                                                                             |
| NUMBER OF DEATHS, $d_x$ . |                                                        |                                                                  |                                                                                                  |                                                                     |                                                                                                 |                                                                                     |                                                                          |                                                                                                |                                                                        |                                                                       |                                                                                                |
| 0                         |                                                        |                                                                  |                                                                                                  |                                                                     | 36,015                                                                                          |                                                                                     |                                                                          |                                                                                                |                                                                        |                                                                       | 12,326                                                                                         |
| 1                         |                                                        |                                                                  |                                                                                                  |                                                                     | 26,497                                                                                          |                                                                                     |                                                                          |                                                                                                |                                                                        |                                                                       | 2,473                                                                                          |
| 2                         |                                                        |                                                                  |                                                                                                  |                                                                     | 19,549                                                                                          |                                                                                     |                                                                          |                                                                                                |                                                                        | 3,467                                                                 | 1,084                                                                                          |
| 3                         |                                                        |                                                                  |                                                                                                  |                                                                     | 14,453                                                                                          |                                                                                     |                                                                          |                                                                                                |                                                                        | 2,169                                                                 | 668                                                                                            |
| 4                         |                                                        |                                                                  |                                                                                                  |                                                                     | 10,721                                                                                          |                                                                                     |                                                                          |                                                                                                |                                                                        | 1,298                                                                 | 477                                                                                            |
| 5                         |                                                        |                                                                  |                                                                                                  |                                                                     | 8,011                                                                                           |                                                                                     |                                                                          |                                                                                                |                                                                        | 881                                                                   | 391                                                                                            |
| 6                         |                                                        |                                                                  |                                                                                                  |                                                                     | 6,078                                                                                           |                                                                                     |                                                                          |                                                                                                |                                                                        | 664                                                                   | 330                                                                                            |
| 7                         |                                                        |                                                                  |                                                                                                  |                                                                     | 4,744                                                                                           |                                                                                     |                                                                          |                                                                                                |                                                                        | 545                                                                   | 280                                                                                            |
| 8                         |                                                        |                                                                  |                                                                                                  |                                                                     | 3,876                                                                                           |                                                                                     |                                                                          |                                                                                                |                                                                        | 445                                                                   | 240                                                                                            |
| 9                         |                                                        |                                                                  |                                                                                                  |                                                                     | 3,372                                                                                           |                                                                                     |                                                                          |                                                                                                |                                                                        | 368                                                                   | 212                                                                                            |
| 10                        | 749                                                    | 648                                                              |                                                                                                  | 658                                                                 | 3,155                                                                                           |                                                                                     | 785                                                                      |                                                                                                |                                                                        | 310                                                                   | 194                                                                                            |
| 11                        | 746                                                    | 646                                                              |                                                                                                  | 658                                                                 | 3,158                                                                                           |                                                                                     | 771                                                                      |                                                                                                |                                                                        | 274                                                                   | 185                                                                                            |
| 12                        | 743                                                    | 643                                                              |                                                                                                  | 656                                                                 | 3,328                                                                                           |                                                                                     | 787                                                                      |                                                                                                |                                                                        | 258                                                                   | 186                                                                                            |
| 13                        | 740                                                    | 641                                                              |                                                                                                  | 655                                                                 | 3,617                                                                                           |                                                                                     | 811                                                                      |                                                                                                |                                                                        | 263                                                                   | 195                                                                                            |
| 14                        | 737                                                    | 640                                                              |                                                                                                  | 654                                                                 | 3,980                                                                                           |                                                                                     | 849                                                                      |                                                                                                |                                                                        | 282                                                                   | 210                                                                                            |
| 15                        | 735                                                    | 638                                                              | 346                                                                                              | 654                                                                 | 4,377                                                                                           |                                                                                     | 901                                                                      | 277                                                                                            |                                                                        | 318                                                                   | 228                                                                                            |
| 16                        | 732                                                    | 636                                                              | 352                                                                                              | 654                                                                 | 4,771                                                                                           |                                                                                     | 966                                                                      | 280                                                                                            |                                                                        | 361                                                                   | 253                                                                                            |
| 17                        | 729                                                    | 635                                                              | 360                                                                                              | 655                                                                 | 5,125                                                                                           | 909                                                                                 | 1,038                                                                    | 284                                                                                            |                                                                        | 421                                                                   | 283                                                                                            |
| 18                        | 727                                                    | 634                                                              | 367                                                                                              | 655                                                                 | 5,411                                                                                           | 936                                                                                 | 1,107                                                                    | 289                                                                                            |                                                                        | 482                                                                   | 318                                                                                            |
| 19                        | 725                                                    | 633                                                              | 376                                                                                              | 655                                                                 | 5,603                                                                                           | 942                                                                                 | 1,162                                                                    | 293                                                                                            |                                                                        | 542                                                                   | 351                                                                                            |
| 20                        | 723                                                    | 633                                                              | 385                                                                                              | 657                                                                 | 5,668                                                                                           | 919                                                                                 | 1,192                                                                    | 298                                                                                            | 500                                                                    | 599                                                                   | 387                                                                                            |
| 21                        | 722                                                    | 633                                                              | 393                                                                                              | 660                                                                 | 5,662                                                                                           | 908                                                                                 | 1,193                                                                    | 304                                                                                            | 501                                                                    | 651                                                                   | 413                                                                                            |
| 22                        | 721                                                    | 633                                                              | 401                                                                                              | 661                                                                 | 5,538                                                                                           | 887                                                                                 | 1,162                                                                    | 310                                                                                            | 502                                                                    | 696                                                                   | 422                                                                                            |
| 23                        | 720                                                    | 634                                                              | 406                                                                                              | 664                                                                 | 5,345                                                                                           | 861                                                                                 | 1,106                                                                    | 316                                                                                            | 503                                                                    | 732                                                                   | 422                                                                                            |
| 24                        | 719                                                    | 635                                                              | 411                                                                                              | 667                                                                 | 5,140                                                                                           | 835                                                                                 | 1,034                                                                    | 324                                                                                            | 505                                                                    | 764                                                                   | 425                                                                                            |
| 25                        | 718                                                    | 636                                                              | 415                                                                                              | 672                                                                 | 5,008                                                                                           | 810                                                                                 | 950                                                                      | 332                                                                                            | 507                                                                    | 793                                                                   | 426                                                                                            |
| 26                        | 718                                                    | 639                                                              | 417                                                                                              | 676                                                                 | 5,067                                                                                           | 804                                                                                 | 887                                                                      | 340                                                                                            | 510                                                                    | 820                                                                   | 432                                                                                            |
| 27                        | 718                                                    | 641                                                              | 419                                                                                              | 681                                                                 | 5,135                                                                                           | 797                                                                                 | 829                                                                      | 351                                                                                            | 513                                                                    | 845                                                                   | 443                                                                                            |
| 28                        | 718                                                    | 644                                                              | 419                                                                                              | 688                                                                 | 5,210                                                                                           | 795                                                                                 | 783                                                                      | 361                                                                                            | 517                                                                    | 873                                                                   | 460                                                                                            |
| 29                        | 719                                                    | 649                                                              | 419                                                                                              | 694                                                                 | 5,293                                                                                           | 800                                                                                 | 754                                                                      | 372                                                                                            | 522                                                                    | 898                                                                   | 476                                                                                            |
| 30                        | 720                                                    | 653                                                              | 420                                                                                              | 703                                                                 | 5,385                                                                                           | 808                                                                                 | 734                                                                      | 385                                                                                            | 527                                                                    | 917                                                                   | 494                                                                                            |
| 31                        | 721                                                    | 658                                                              | 420                                                                                              | 711                                                                 | 5,487                                                                                           | 818                                                                                 | 721                                                                      | 399                                                                                            | 533                                                                    | 935                                                                   | 515                                                                                            |
| 32                        | 723                                                    | 664                                                              | 421                                                                                              | 720                                                                 | 5,597                                                                                           | 831                                                                                 | 713                                                                      | 414                                                                                            | 540                                                                    | 946                                                                   | 540                                                                                            |
| 33                        | 726                                                    | 671                                                              | 426                                                                                              | 732                                                                 | 5,719                                                                                           | 841                                                                                 | 707                                                                      | 430                                                                                            | 548                                                                    | 952                                                                   | 564                                                                                            |
| 34                        | 729                                                    | 679                                                              | 433                                                                                              | 744                                                                 | 5,851                                                                                           | 856                                                                                 | 705                                                                      | 448                                                                                            | 557                                                                    | 959                                                                   | 589                                                                                            |
| 35                        | 732                                                    | 689                                                              | 440                                                                                              | 757                                                                 | 5,997                                                                                           | 873                                                                                 | 703                                                                      | 467                                                                                            | 567                                                                    | 965                                                                   | 614                                                                                            |
| 36                        | 737                                                    | 698                                                              | 452                                                                                              | 771                                                                 | 6,155                                                                                           | 889                                                                                 | 708                                                                      | 488                                                                                            | 578                                                                    | 970                                                                   | 636                                                                                            |
| 37                        | 742                                                    | 709                                                              | 466                                                                                              | 788                                                                 | 6,328                                                                                           | 906                                                                                 | 721                                                                      | 510                                                                                            | 591                                                                    | 979                                                                   | 654                                                                                            |
| 38                        | 749                                                    | 722                                                              | 482                                                                                              | 806                                                                 | 6,514                                                                                           | 928                                                                                 | 742                                                                      | 535                                                                                            | 606                                                                    | 990                                                                   | 670                                                                                            |
| 39                        | 756                                                    | 736                                                              | 501                                                                                              | 825                                                                 | 6,718                                                                                           | 950                                                                                 | 774                                                                      | 562                                                                                            | 622                                                                    | 1,002                                                                 | 686                                                                                            |
| 40                        | 765                                                    | 752                                                              | 524                                                                                              | 846                                                                 | 6,938                                                                                           | 975                                                                                 | 816                                                                      | 591                                                                                            | 640                                                                    | 1,017                                                                 | 704                                                                                            |
| 41                        | 774                                                    | 768                                                              | 549                                                                                              | 869                                                                 | 7,176                                                                                           | 1,006                                                                               | 869                                                                      | 623                                                                                            | 660                                                                    | 1,032                                                                 | 722                                                                                            |
| 42                        | 785                                                    | 788                                                              | 579                                                                                              | 895                                                                 | 7,433                                                                                           | 1,035                                                                               | 931                                                                      | 656                                                                                            | 683                                                                    | 1,049                                                                 | 744                                                                                            |
| 43                        | 797                                                    | 808                                                              | 611                                                                                              | 922                                                                 | 7,710                                                                                           | 1,063                                                                               | 1,000                                                                    | 693                                                                                            | 708                                                                    | 1,068                                                                 | 769                                                                                            |
| 44                        | 812                                                    | 831                                                              | 648                                                                                              | 951                                                                 | 8,009                                                                                           | 1,092                                                                               | 1,074                                                                    | 734                                                                                            | 734                                                                    | 1,090                                                                 | 794                                                                                            |
| 45                        | 828                                                    | 856                                                              | 689                                                                                              | 984                                                                 | 8,329                                                                                           | 1,117                                                                               | 1,152                                                                    | 776                                                                                            | 761                                                                    | 1,113                                                                 | 823                                                                                            |
| 46                        | 848                                                    | 883                                                              | 733                                                                                              | 1,018                                                               | 8,673                                                                                           | 1,140                                                                               | 1,230                                                                    | 822                                                                                            | 790                                                                    | 1,139                                                                 | 852                                                                                            |
| 47                        | 870                                                    | 913                                                              | 783                                                                                              | 1,056                                                               | 9,041                                                                                           | 1,169                                                                               | 1,309                                                                    | 872                                                                                            | 822                                                                    | 1,165                                                                 | 877                                                                                            |
| 48                        | 896                                                    | 945                                                              | 836                                                                                              | 1,096                                                               | 9,434                                                                                           | 1,204                                                                               | 1,388                                                                    | 926                                                                                            | 857                                                                    | 1,196                                                                 | 900                                                                                            |
| 49                        | 927                                                    | 980                                                              | 896                                                                                              | 1,139                                                               | 9,854                                                                                           | 1,246                                                                               | 1,467                                                                    | 983                                                                                            | 894                                                                    | 1,228                                                                 | 922                                                                                            |

\* Not published: derived from  $l_x$  in Table 90, p. 236.

† The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

## NUMBER ALIVE BY ORIGINAL RADIX OF EACH TABLE.

## TABLE 91

COUNTRIES; ALSO THE NUMBER OF DEATHS TAKEN FROM THE LIFE TABLE FOR WHITE MALES IN THE  
TION STATES: 1910.

| AGE.                      | American<br>Experience<br>Mortality<br>Table:<br>1860. | Thirty<br>American<br>Offices Life<br>Tables:<br>1871.<br>Males. | American-<br>Canadian<br>Mortality<br>Investigation:<br>1900-1915.<br>American<br>men.<br>AM <sup>(a)</sup> | British<br>Offices Life<br>Tables:<br>1863-1893.<br>Males.<br>OM <sup>(b)</sup> | Four French<br>Offices<br>Mortality<br>Experience:<br>1810-1887.<br>Males and<br>females.<br>AF | Twenty-three<br>German<br>Offices Life<br>Tables:<br>1875.<br>Males and<br>females. | Three<br>Japanese<br>Offices Life<br>Tables:<br>1905.<br>Males.<br>JM <sup>(c)</sup> | Seventeen<br>Swedish<br>Offices Life<br>Tables:<br>1895-1906.<br>Aggregate<br>males.<br>SM <sup>(d)</sup> | National<br>Fraternal<br>Congress<br>Mortality<br>Table:<br>1898.<br>* | Standard<br>Industrial<br>Mortality<br>Table:<br>1896-1905.<br>Males. | United<br>States<br>Original<br>Registration<br>States:<br>1909-1911.<br>White<br>males.<br>† |
|---------------------------|--------------------------------------------------------|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 1                         | 2                                                      | 3                                                                | 4                                                                                                           | 5                                                                               | 6                                                                                               | 7                                                                                   | 8                                                                                    | 9                                                                                                         | 10                                                                     | 11                                                                    | 12                                                                                            |
| NUMBER OF DEATHS, $d_x$ . |                                                        |                                                                  |                                                                                                             |                                                                                 |                                                                                                 |                                                                                     |                                                                                      |                                                                                                           |                                                                        |                                                                       |                                                                                               |
| 50                        | 962                                                    | 1,018                                                            | 959                                                                                                         | 1,185                                                                           | 10,298                                                                                          | 1,303                                                                               | 1,542                                                                                | 1,044                                                                                                     | 935                                                                    | 1,262                                                                 | 943                                                                                           |
| 51                        | 1,001                                                  | 1,059                                                            | 1,026                                                                                                       | 1,234                                                                           | 10,770                                                                                          | 1,362                                                                               | 1,611                                                                                | 1,110                                                                                                     | 981                                                                    | 1,299                                                                 | 971                                                                                           |
| 52                        | 1,041                                                  | 1,103                                                            | 1,101                                                                                                       | 1,286                                                                           | 11,270                                                                                          | 1,425                                                                               | 1,676                                                                                | 1,180                                                                                                     | 1,029                                                                  | 1,339                                                                 | 1,012                                                                                         |
| 53                        | 1,091                                                  | 1,150                                                            | 1,178                                                                                                       | 1,343                                                                           | 11,795                                                                                          | 1,490                                                                               | 1,740                                                                                | 1,254                                                                                                     | 1,083                                                                  | 1,379                                                                 | 1,067                                                                                         |
| 54                        | 1,143                                                  | 1,200                                                            | 1,263                                                                                                       | 1,402                                                                           | 12,348                                                                                          | 1,556                                                                               | 1,806                                                                                | 1,332                                                                                                     | 1,140                                                                  | 1,423                                                                 | 1,126                                                                                         |
| 55                        | 1,199                                                  | 1,255                                                            | 1,350                                                                                                       | 1,464                                                                           | 12,924                                                                                          | 1,621                                                                               | 1,882                                                                                | 1,415                                                                                                     | 1,202                                                                  | 1,469                                                                 | 1,196                                                                                         |
| 56                        | 1,260                                                  | 1,312                                                            | 1,444                                                                                                       | 1,529                                                                           | 13,525                                                                                          | 1,691                                                                               | 1,966                                                                                | 1,503                                                                                                     | 1,270                                                                  | 1,516                                                                 | 1,268                                                                                         |
| 57                        | 1,325                                                  | 1,374                                                            | 1,541                                                                                                       | 1,598                                                                           | 14,148                                                                                          | 1,759                                                                               | 2,062                                                                                | 1,595                                                                                                     | 1,342                                                                  | 1,566                                                                 | 1,333                                                                                         |
| 58                        | 1,394                                                  | 1,438                                                            | 1,642                                                                                                       | 1,669                                                                           | 14,788                                                                                          | 1,832                                                                               | 2,161                                                                                | 1,690                                                                                                     | 1,418                                                                  | 1,615                                                                 | 1,390                                                                                         |
| 59                        | 1,468                                                  | 1,505                                                            | 1,746                                                                                                       | 1,742                                                                           | 15,444                                                                                          | 1,900                                                                               | 2,259                                                                                | 1,790                                                                                                     | 1,501                                                                  | 1,666                                                                 | 1,448                                                                                         |
| 60                        | 1,546                                                  | 1,576                                                            | 1,856                                                                                                       | 1,819                                                                           | 16,110                                                                                          | 1,976                                                                               | 2,349                                                                                | 1,893                                                                                                     | 1,588                                                                  | 1,717                                                                 | 1,506                                                                                         |
| 61                        | 1,628                                                  | 1,650                                                            | 1,965                                                                                                       | 1,897                                                                           | 16,782                                                                                          | 2,038                                                                               | 2,425                                                                                | 1,998                                                                                                     | 1,681                                                                  | 1,768                                                                 | 1,565                                                                                         |
| 62                        | 1,713                                                  | 1,725                                                            | 2,076                                                                                                       | 1,975                                                                           | 17,450                                                                                          | 2,097                                                                               | 2,476                                                                                | 2,106                                                                                                     | 1,778                                                                  | 1,817                                                                 | 1,625                                                                                         |
| 63                        | 1,800                                                  | 1,803                                                            | 2,188                                                                                                       | 2,055                                                                           | 18,111                                                                                          | 2,149                                                                               | 2,493                                                                                | 2,215                                                                                                     | 1,880                                                                  | 1,864                                                                 | 1,687                                                                                         |
| 64                        | 1,889                                                  | 1,882                                                            | 2,298                                                                                                       | 2,133                                                                           | 18,750                                                                                          | 2,197                                                                               | 2,480                                                                                | 2,324                                                                                                     | 1,955                                                                  | 1,908                                                                 | 1,742                                                                                         |
| 65                        | 1,980                                                  | 1,962                                                            | 2,406                                                                                                       | 2,211                                                                           | 19,363                                                                                          | 2,246                                                                               | 2,439                                                                                | 2,432                                                                                                     | 2,094                                                                  | 1,948                                                                 | 1,789                                                                                         |
| 66                        | 2,070                                                  | 2,040                                                            | 2,508                                                                                                       | 2,285                                                                           | 19,933                                                                                          | 2,302                                                                               | 2,388                                                                                | 2,536                                                                                                     | 2,206                                                                  | 1,983                                                                 | 1,832                                                                                         |
| 67                        | 2,158                                                  | 2,118                                                            | 2,606                                                                                                       | 2,355                                                                           | 20,450                                                                                          | 2,355                                                                               | 2,341                                                                                | 2,636                                                                                                     | 2,318                                                                  | 2,010                                                                 | 1,870                                                                                         |
| 68                        | 2,243                                                  | 2,190                                                            | 2,694                                                                                                       | 2,421                                                                           | 20,901                                                                                          | 2,399                                                                               | 2,316                                                                                | 2,729                                                                                                     | 2,430                                                                  | 2,029                                                                 | 1,907                                                                                         |
| 69                        | 2,321                                                  | 2,261                                                            | 2,773                                                                                                       | 2,478                                                                           | 21,268                                                                                          | 2,432                                                                               | 2,319                                                                                | 2,814                                                                                                     | 2,539                                                                  | 2,038                                                                 | 1,937                                                                                         |
| 70                        | 2,391                                                  | 2,323                                                            | 2,839                                                                                                       | 2,527                                                                           | 21,540                                                                                          | 2,452                                                                               | 2,343                                                                                | 2,888                                                                                                     | 2,645                                                                  | 2,037                                                                 | 1,959                                                                                         |
| 71                        | 2,448                                                  | 2,378                                                            | 2,891                                                                                                       | 2,565                                                                           | 21,697                                                                                          | 2,455                                                                               | 2,373                                                                                | 2,947                                                                                                     | 2,744                                                                  | 2,023                                                                 | 1,978                                                                                         |
| 72                        | 2,487                                                  | 2,422                                                            | 2,926                                                                                                       | 2,591                                                                           | 21,729                                                                                          | 2,436                                                                               | 2,388                                                                                | 2,990                                                                                                     | 2,832                                                                  | 1,995                                                                 | 1,995                                                                                         |
| 73                        | 2,505                                                  | 2,453                                                            | 2,942                                                                                                       | 2,602                                                                           | 21,619                                                                                          | 2,406                                                                               | 2,369                                                                                | 3,014                                                                                                     | 2,909                                                                  | 1,952                                                                 | 2,005                                                                                         |
| 74                        | 2,501                                                  | 2,472                                                            | 2,937                                                                                                       | 2,596                                                                           | 21,355                                                                                          | 2,360                                                                               | 2,307                                                                                | 3,017                                                                                                     | 2,969                                                                  | 1,893                                                                 | 2,005                                                                                         |
| 75                        | 2,476                                                  | 2,472                                                            | 2,910                                                                                                       | 2,572                                                                           | 20,929                                                                                          | 2,299                                                                               | 2,201                                                                                | 2,995                                                                                                     | 3,009                                                                  | 1,820                                                                 | 1,997                                                                                         |
| 76                        | 2,431                                                  | 2,453                                                            | 2,860                                                                                                       | 2,529                                                                           | 20,334                                                                                          | 2,210                                                                               | 2,039                                                                                | 2,948                                                                                                     | 3,026                                                                  | 1,730                                                                 | 1,966                                                                                         |
| 77                        | 2,369                                                  | 2,416                                                            | 2,786                                                                                                       | 2,466                                                                           | 19,566                                                                                          | 2,103                                                                               | 1,891                                                                                | 2,873                                                                                                     | 3,016                                                                  | 1,625                                                                 | 1,904                                                                                         |
| 78                        | 2,291                                                  | 2,356                                                            | 2,686                                                                                                       | 2,381                                                                           | 18,634                                                                                          | 1,982                                                                               | 1,713                                                                                | 2,769                                                                                                     | 2,977                                                                  | 1,507                                                                 | 1,821                                                                                         |
| 79                        | 2,196                                                  | 2,274                                                            | 2,565                                                                                                       | 2,276                                                                           | 17,542                                                                                          | 1,848                                                                               | 1,532                                                                                | 2,637                                                                                                     | 2,905                                                                  | 1,377                                                                 | 1,737                                                                                         |
| 80                        | 2,091                                                  | 2,170                                                            | 2,422                                                                                                       | 2,151                                                                           | 16,307                                                                                          | 1,730                                                                               | 1,354                                                                                | 2,478                                                                                                     | 2,799                                                                  | 1,239                                                                 | 1,651                                                                                         |
| 81                        | 1,964                                                  | 2,044                                                            | 2,258                                                                                                       | 2,007                                                                           | 14,953                                                                                          | 1,599                                                                               | 1,181                                                                                | 2,294                                                                                                     | 2,659                                                                  | 1,065                                                                 | 1,547                                                                                         |
| 82                        | 1,816                                                  | 1,900                                                            | 2,078                                                                                                       | 1,847                                                                           | 13,506                                                                                          | 1,443                                                                               | 1,011                                                                                | 2,089                                                                                                     | 2,485                                                                  | 930                                                                   | 1,419                                                                                         |
| 83                        | 1,648                                                  | 1,737                                                            | 1,885                                                                                                       | 1,674                                                                           | 12,000                                                                                          | 1,264                                                                               | 849                                                                                  | 1,868                                                                                                     | 2,280                                                                  | 806                                                                   | 1,271                                                                                         |
| 84                        | 1,470                                                  | 1,563                                                            | 1,685                                                                                                       | 1,493                                                                           | 10,470                                                                                          | 1,080                                                                               | 695                                                                                  | 1,636                                                                                                     | 2,050                                                                  | 668                                                                   | 1,127                                                                                         |
| 85                        | 1,292                                                  | 1,379                                                            | 1,481                                                                                                       | 1,308                                                                           | 8,959                                                                                           | 896                                                                                 | 557                                                                                  | 1,400                                                                                                     | 1,800                                                                  | 540                                                                   | 983                                                                                           |
| 86                        | 1,114                                                  | 1,191                                                            | 1,278                                                                                                       | 1,122                                                                           | 7,501                                                                                           | 715                                                                                 | 433                                                                                  | 1,168                                                                                                     | 1,539                                                                  | 424                                                                   | 845                                                                                           |
| 87                        | 933                                                    | 1,008                                                            | 1,081                                                                                                       | 943                                                                             | 6,135                                                                                           | 566                                                                                 | 327                                                                                  | 946                                                                                                       | 1,277                                                                  | 322                                                                   | 715                                                                                           |
| 88                        | 744                                                    | 829                                                              | 897                                                                                                         | 773                                                                             | 4,891                                                                                           | 442                                                                                 | 239                                                                                  | 741                                                                                                       | 1,023                                                                  | 238                                                                   | 594                                                                                           |
| 89                        | 555                                                    | 692                                                              | 727                                                                                                         | 617                                                                             | 3,791                                                                                           | 344                                                                                 | 169                                                                                  | .....                                                                                                     | 783                                                                    | 168                                                                   | 485                                                                                           |
| 90                        | 385                                                    | 549                                                              | 575                                                                                                         | 480                                                                             | 2,849                                                                                           | .....                                                                               | 115                                                                                  | .....                                                                                                     | 579                                                                    | 115                                                                   | 389                                                                                           |
| 91                        | 246                                                    | 403                                                              | 442                                                                                                         | 360                                                                             | 2,072                                                                                           | .....                                                                               | 75                                                                                   | .....                                                                                                     | 404                                                                    | 74                                                                    | 305                                                                                           |
| 92                        | 137                                                    | 261                                                              | 332                                                                                                         | 263                                                                             | 1,452                                                                                           | .....                                                                               | 47                                                                                   | .....                                                                                                     | 264                                                                    | 46                                                                    | 234                                                                                           |
| 93                        | 58                                                     | 187                                                              | 240                                                                                                         | 183                                                                             | 978                                                                                             | .....                                                                               | 27                                                                                   | .....                                                                                                     | 161                                                                    | 26                                                                    | 176                                                                                           |
| 94                        | 18                                                     | 117                                                              | 168                                                                                                         | 124                                                                             | 631                                                                                             | .....                                                                               | 16                                                                                   | .....                                                                                                     | 89                                                                     | 15                                                                    | 130                                                                                           |
| 95                        | 3                                                      | 68                                                               | 114                                                                                                         | 79                                                                              | 388                                                                                             | .....                                                                               | 8                                                                                    | .....                                                                                                     | 44                                                                     | 8                                                                     | 94                                                                                            |
| 96                        | .....                                                  | 38                                                               | 74                                                                                                          | 49                                                                              | 226                                                                                             | .....                                                                               | 4                                                                                    | .....                                                                                                     | 19                                                                     | 4                                                                     | 66                                                                                            |
| 97                        | .....                                                  | 18                                                               | 47                                                                                                          | 28                                                                              | 125                                                                                             | .....                                                                               | 2                                                                                    | .....                                                                                                     | 7                                                                      | 2                                                                     | 47                                                                                            |
| 98                        | .....                                                  | 8                                                                | 27                                                                                                          | 15                                                                              | 65                                                                                              | .....                                                                               | 1                                                                                    | .....                                                                                                     | 3                                                                      | 1                                                                     | 31                                                                                            |
| 99                        | .....                                                  | 4                                                                | 16                                                                                                          | 8                                                                               | 32                                                                                              | .....                                                                               | .....                                                                                | .....                                                                                                     | .....                                                                  | .....                                                                 | 20                                                                                            |
| 100                       | .....                                                  | .....                                                            | 9                                                                                                           | 4                                                                               | 14                                                                                              | .....                                                                               | .....                                                                                | .....                                                                                                     | .....                                                                  | .....                                                                 | 13                                                                                            |

\* Not published; derived from  $l_x$  in Table 90, p. 236.

† The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.





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## PART IV

### GRAPHS OF LIFE TABLE FUNCTIONS

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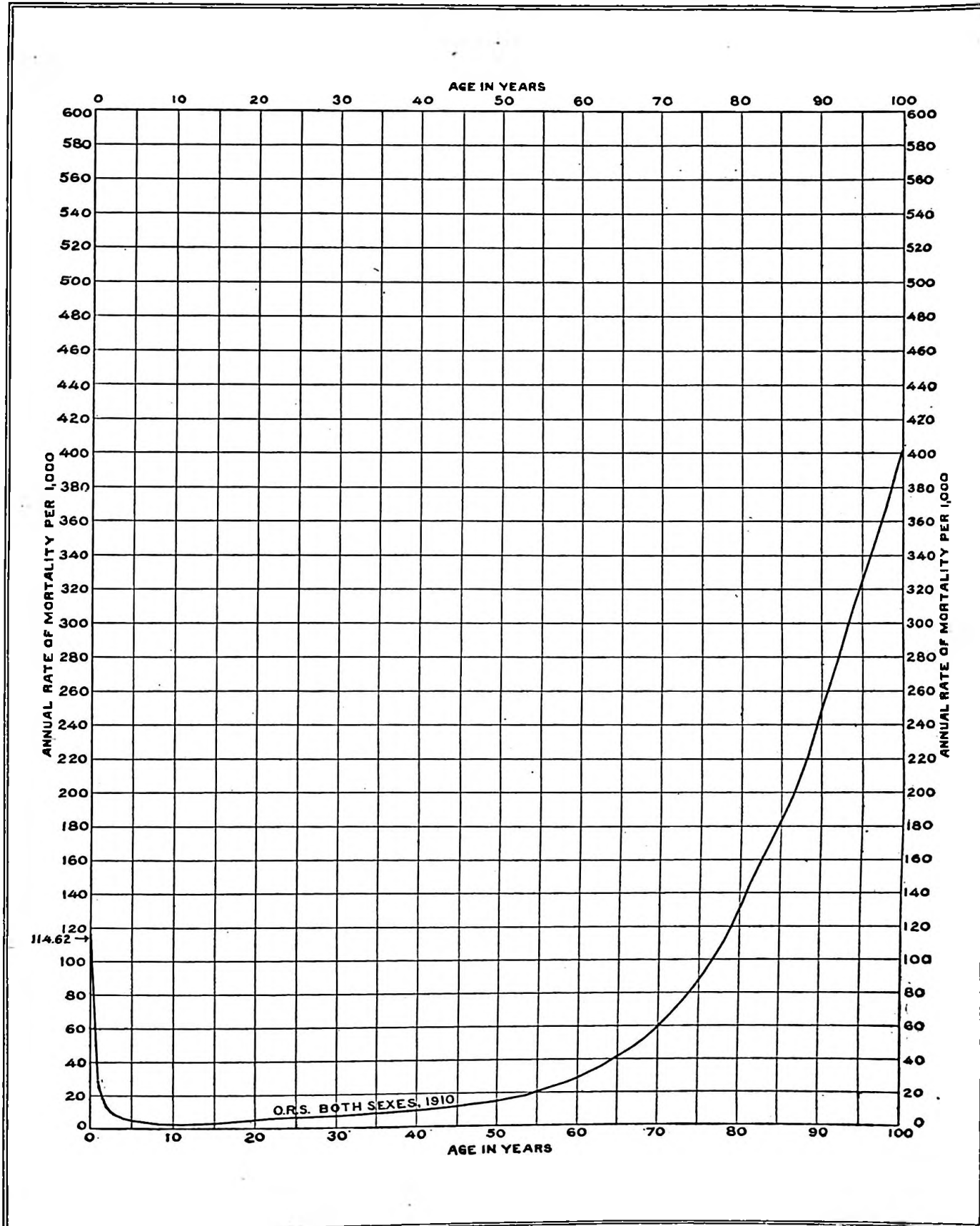
# UNITED STATES LIFE TABLES.

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GRAPH 1

## ANNUAL RATE OF MORTALITY PER THOUSAND THE ORIGINAL REGISTRATION STATES BOTH SEXES: 1910

The values on which this graph is based may be found in column 4, page 54.



GRAPH 2

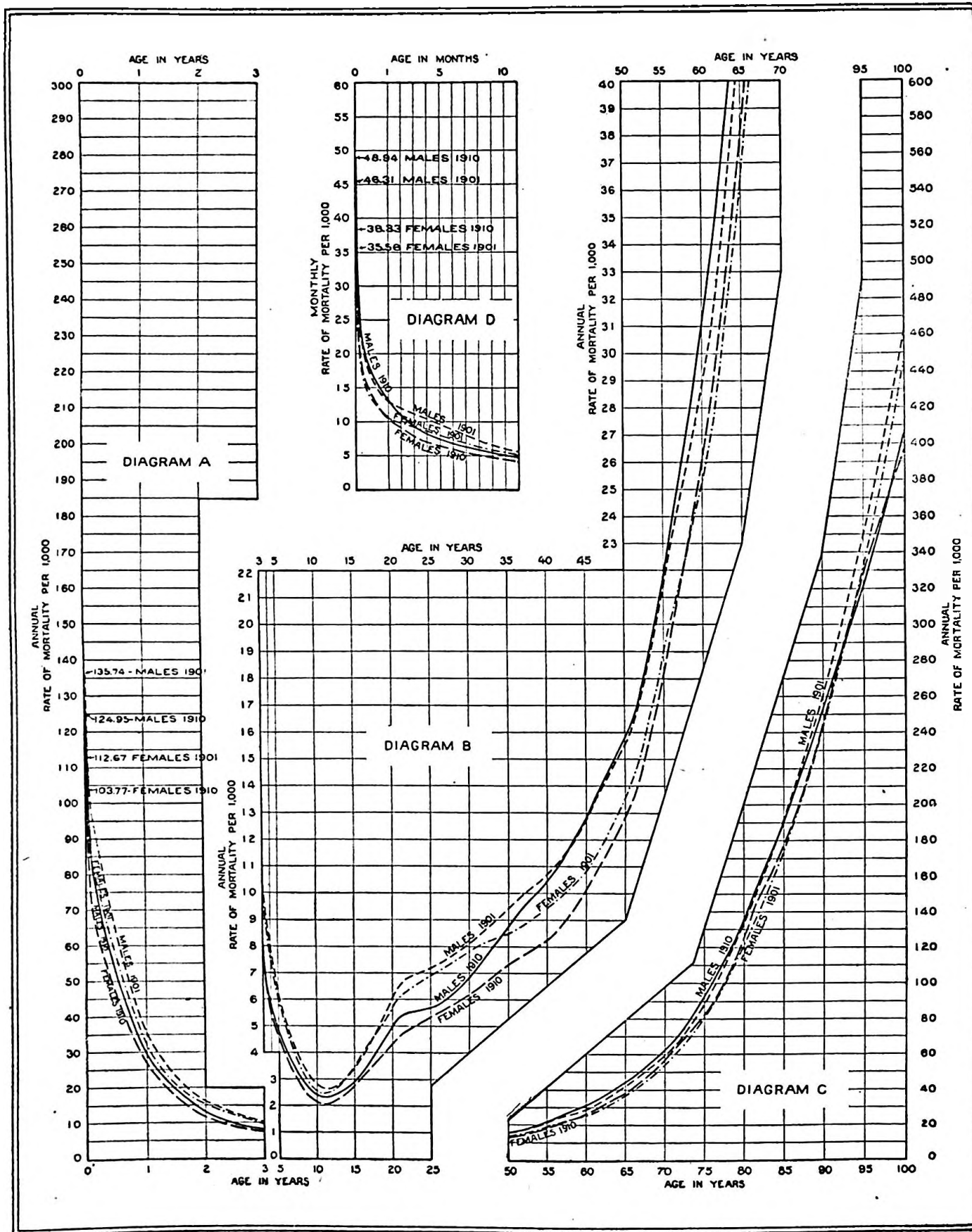
## ANNUAL AND MONTHLY RATES OF MORTALITY PER THOUSAND

THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910

FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 4 on the following pages: 56, males, 1901; 58, males, 1910; 60, females, 1901; 62, females, 1910.



GRAPH 3

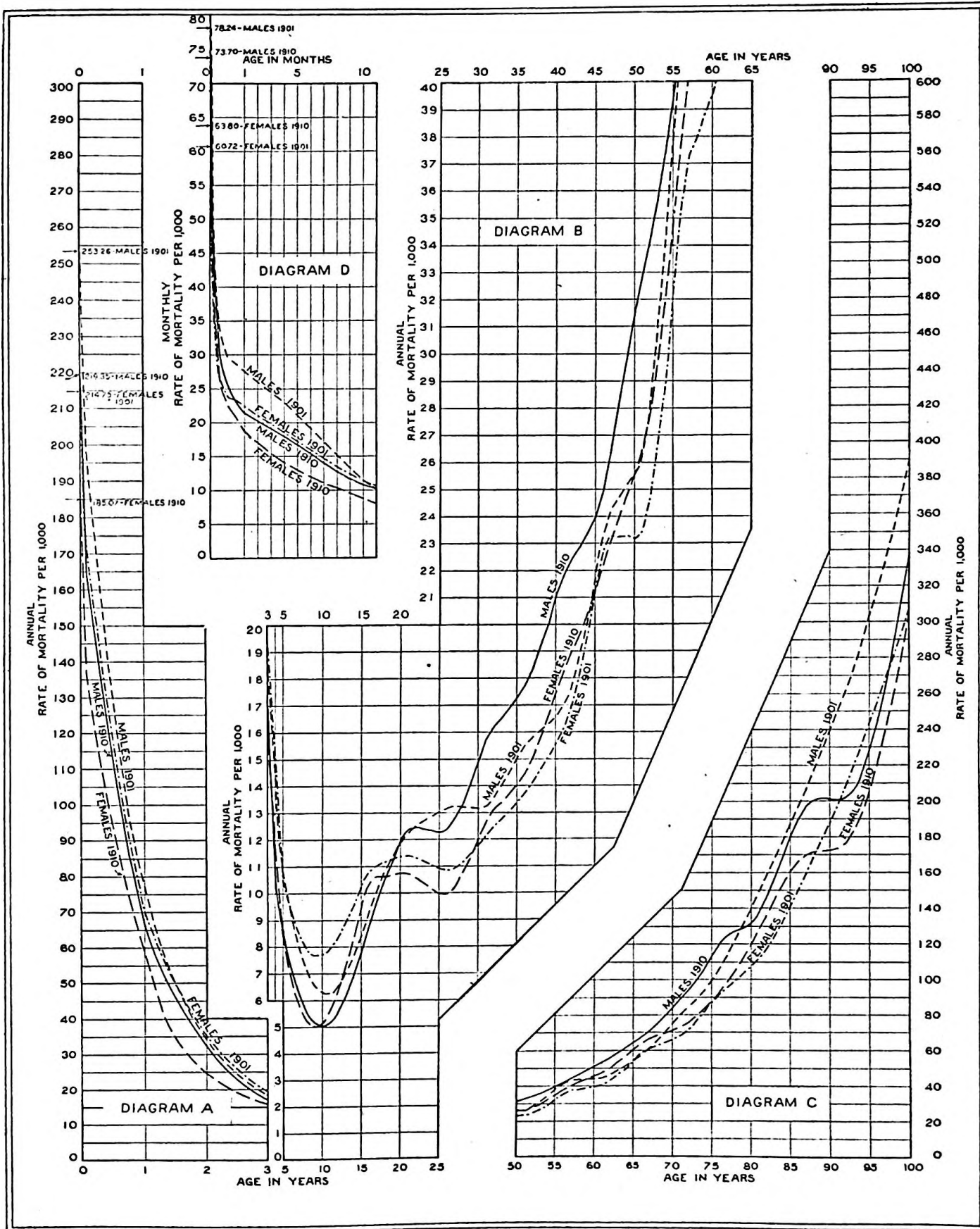
ANNUAL AND MONTHLY RATES OF MORTALITY PER THOUSAND

NEGROES IN THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910

FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 4 on the following pages: 76, males, 1901; 80, males, 1910; 82, females, 1901; 86, females, 1910.



GRAPH 4

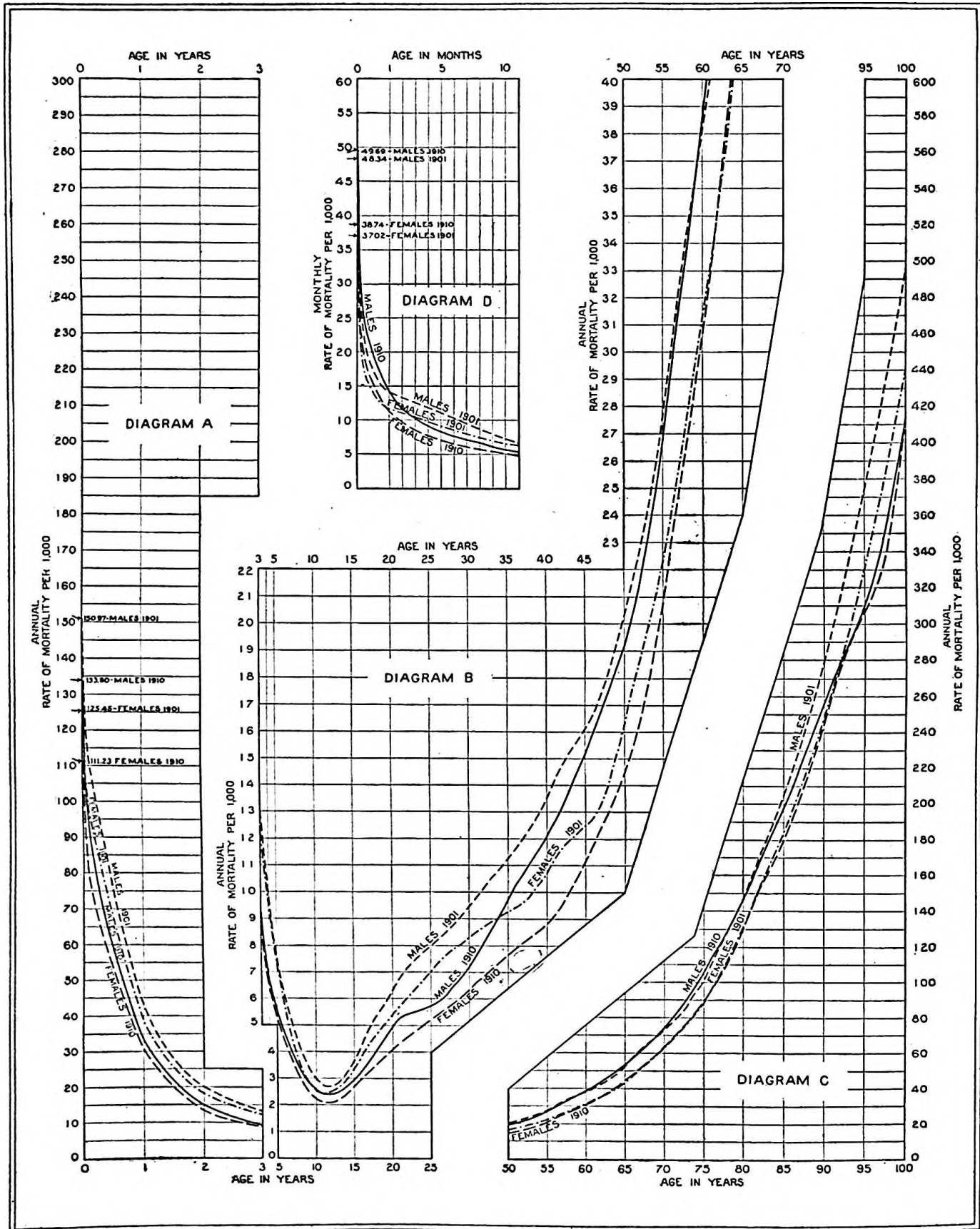
## ANNUAL AND MONTHLY RATES OF MORTALITY PER THOUSAND

MALES: 1901, 1910

WHITES IN CITIES OF THE ORIGINAL REGISTRATION STATES

FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 4 on the following pages: 104, males, 1901; 106, males, 1910; 108, females, 1901; 110, females, 1910.





GRAPH 5

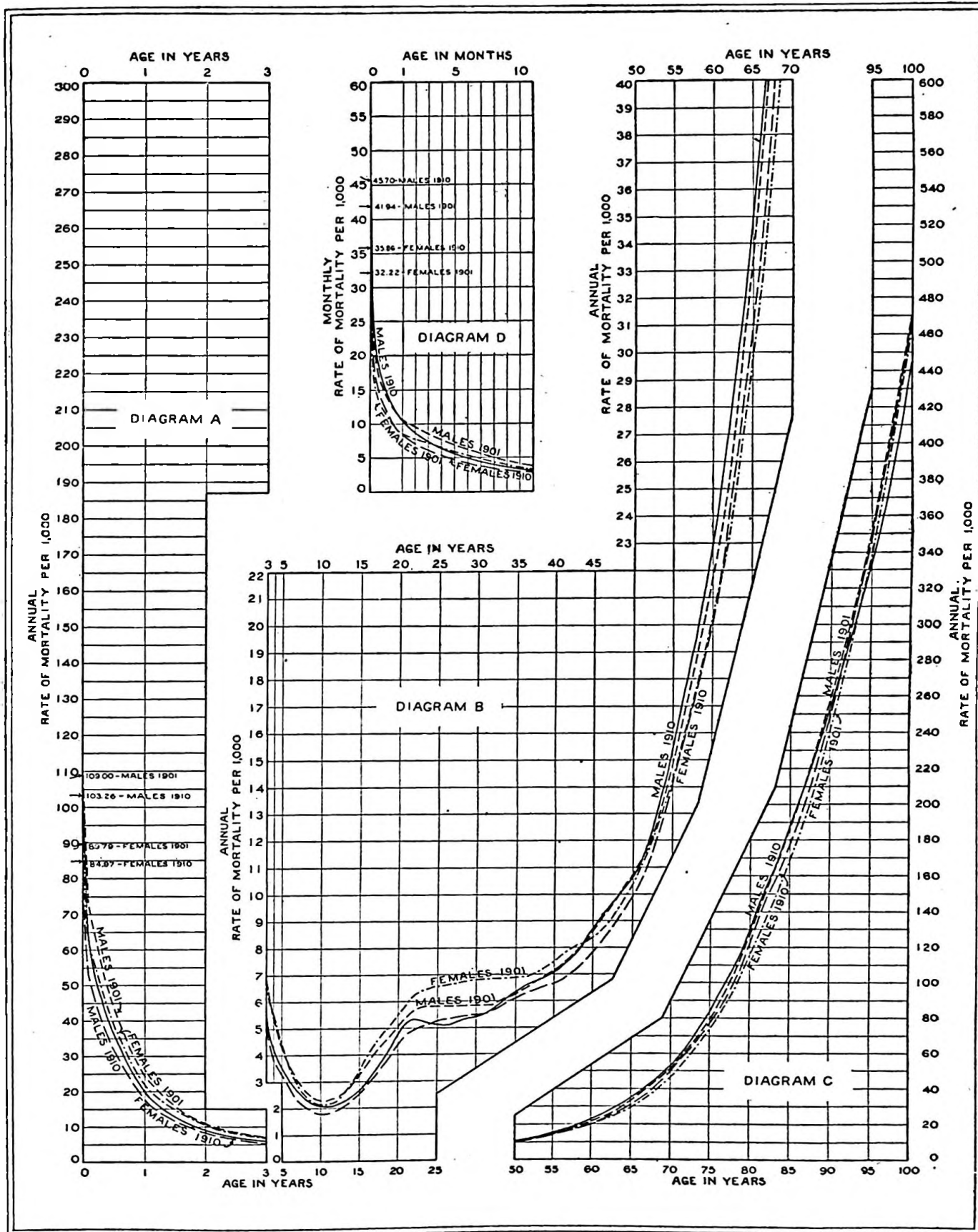
ANNUAL AND MONTHLY RATES OF MORTALITY PER THOUSAND

WHITES IN THE RURAL PART OF THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910

FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 4 on the following pages: 112, males, 1901; 114, males, 1910; 116, females, 1901; 118, females, 1910.

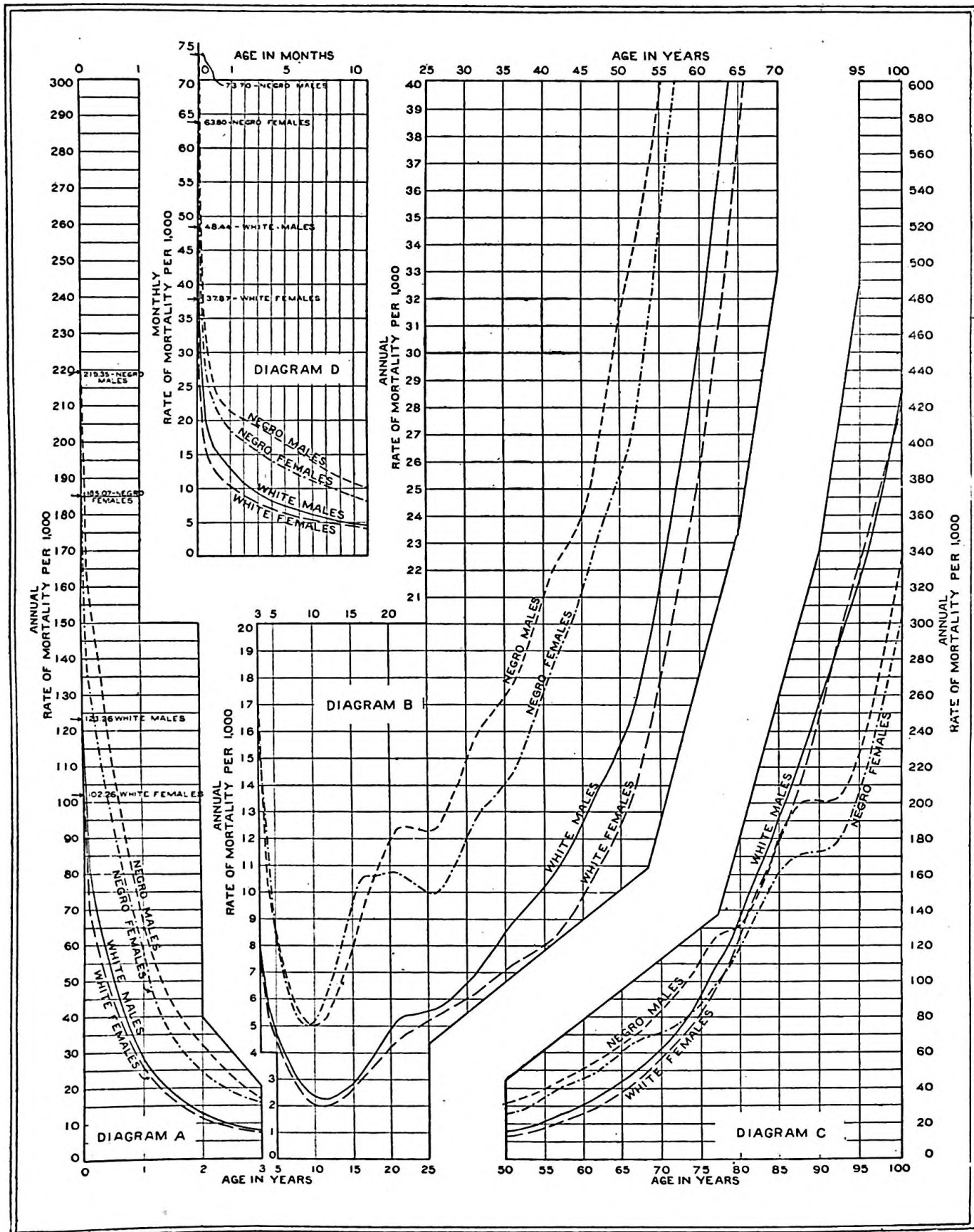


GRAPH 6

## ANNUAL AND MONTHLY RATES OF MORTALITY PER THOUSAND

MALES: 1910      WHITES AND NEGROES IN THE ORIGINAL REGISTRATION STATES      FEMALES: 1910

The values on which these graphs are based may be found in column 4 on the following pages: 68, white males; 74, white females; 80, Negro males; 86, Negro females.



GRAPH 7

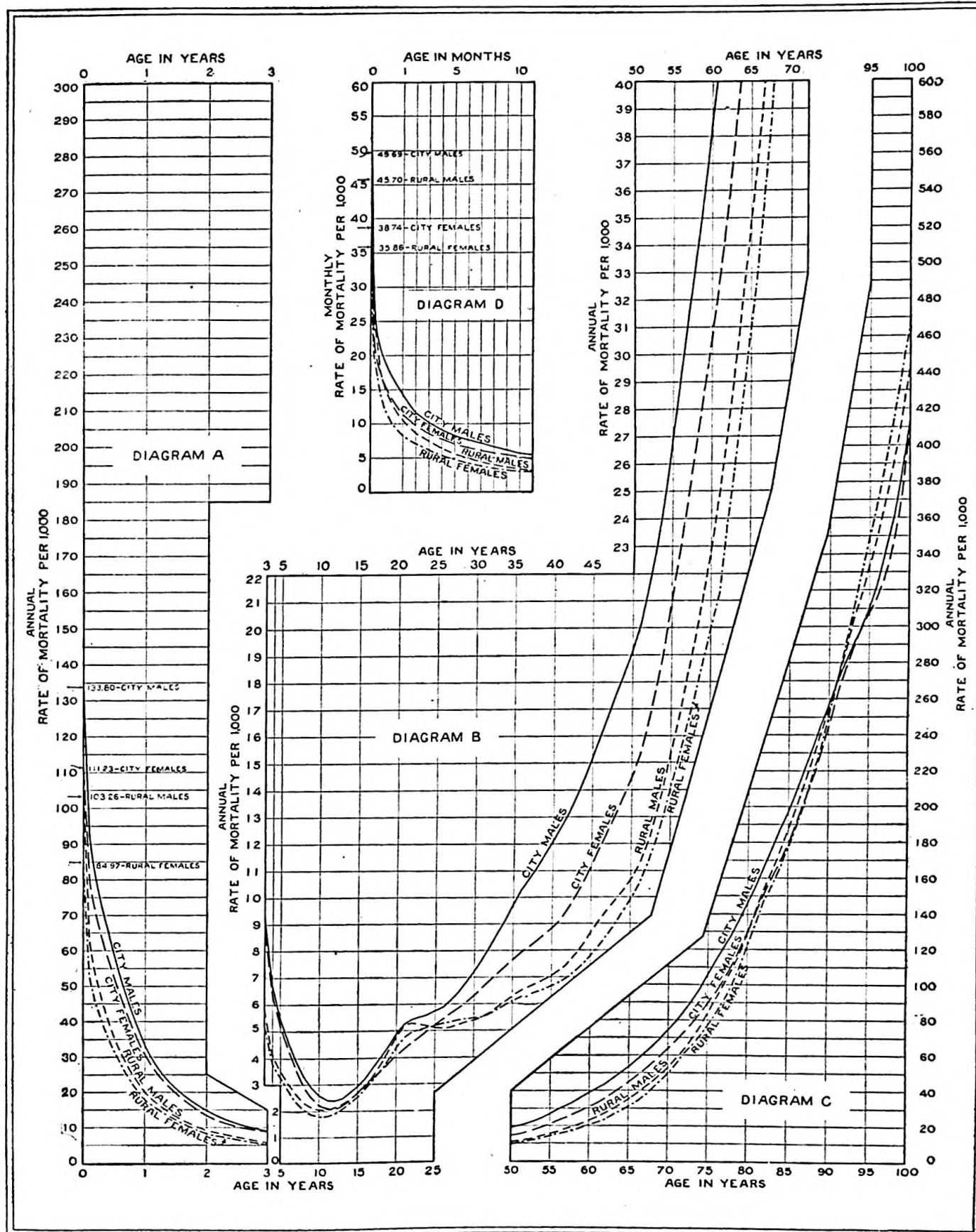
## ANNUAL AND MONTHLY RATES OF MORTALITY PER THOUSAND

WHITES IN CITIES AND RURAL PART OF THE ORIGINAL REGISTRATION STATES

MALES: 1910

FEMALES: 1910

The values on which these graphs are based may be found in column 4 on the following pages: 106, city males; 110, city females; 114, rural males; 118, rural females.



## UNITED STATES LIFE TABLES.

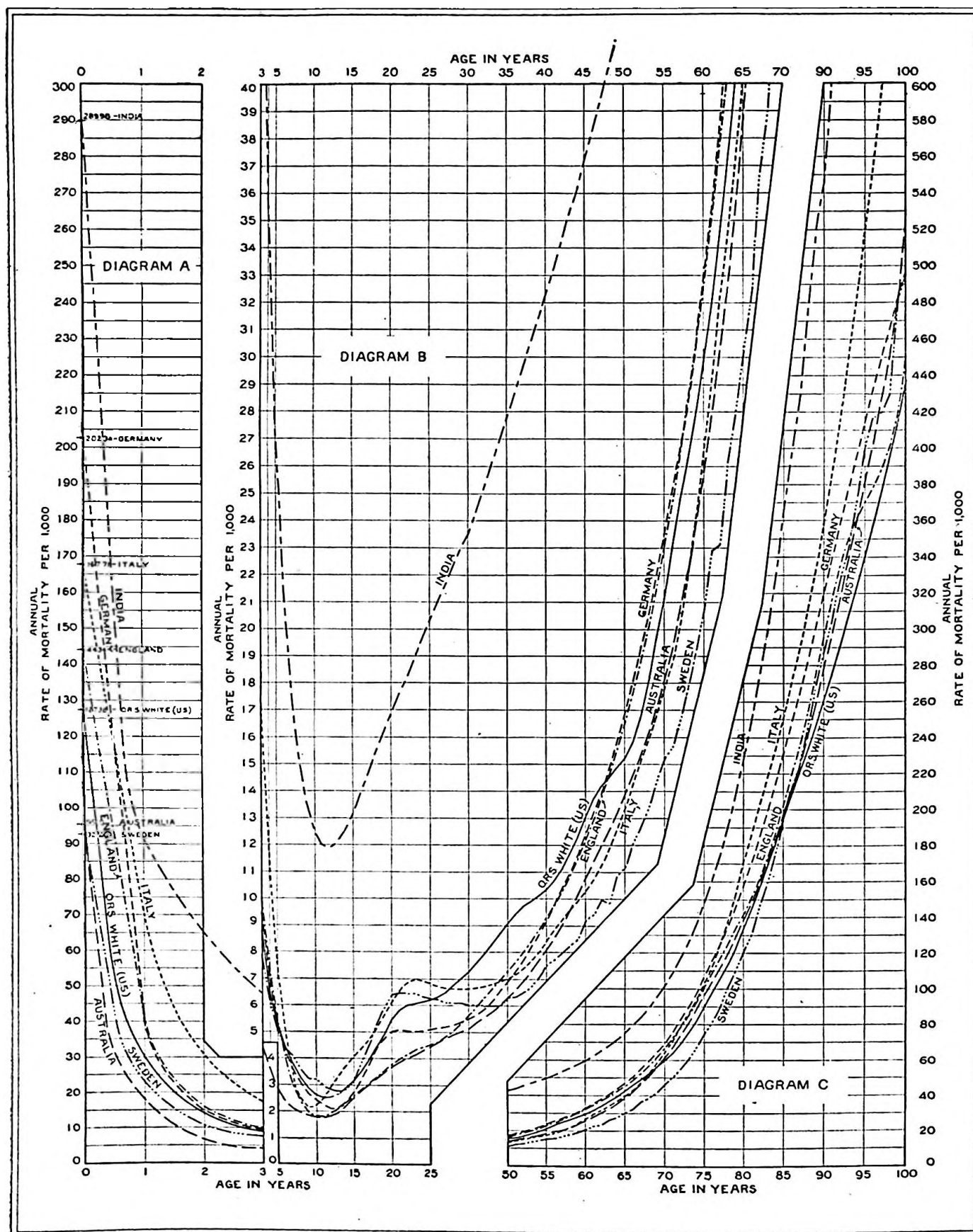
GRAPH 8

## ANNUAL RATE OF MORTALITY PER THOUSAND

AUSTRALIA, ENGLAND, GERMANY, INDIA, ITALY, SWEDEN, AND WHITES IN THE ORIGINAL REGISTRATION STATES

MALES: 1901-1910

The values on which these graphs are based may be found in columns 2, 4, 6, 8, 9, 12, and 14 of Table 75, page 204.





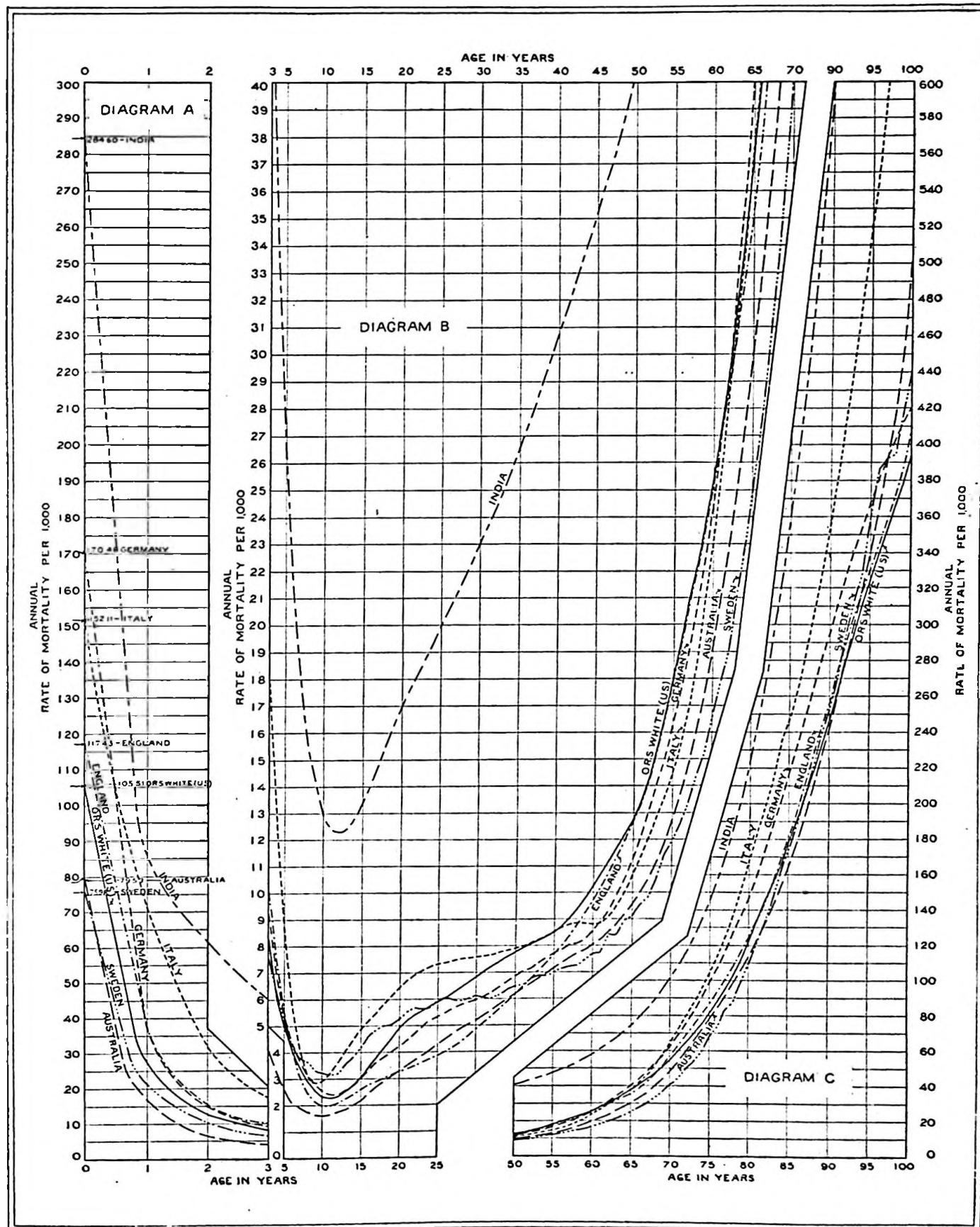
GRAPH 9

ANNUAL RATE OF MORTALITY PER THOUSAND

AUSTRALIA, ENGLAND, GERMANY, INDIA, ITALY, SWEDEN, AND WHITES IN THE ORIGINAL REGISTRATION STATES

FEMALES: 1901-1910

The values on which these graphs are based may be found in columns 2, 4, 6, 8, 9, 12, and 14 of Table 76, page 201.



## UNITED STATES LIFE TABLES.

GRAPH 10

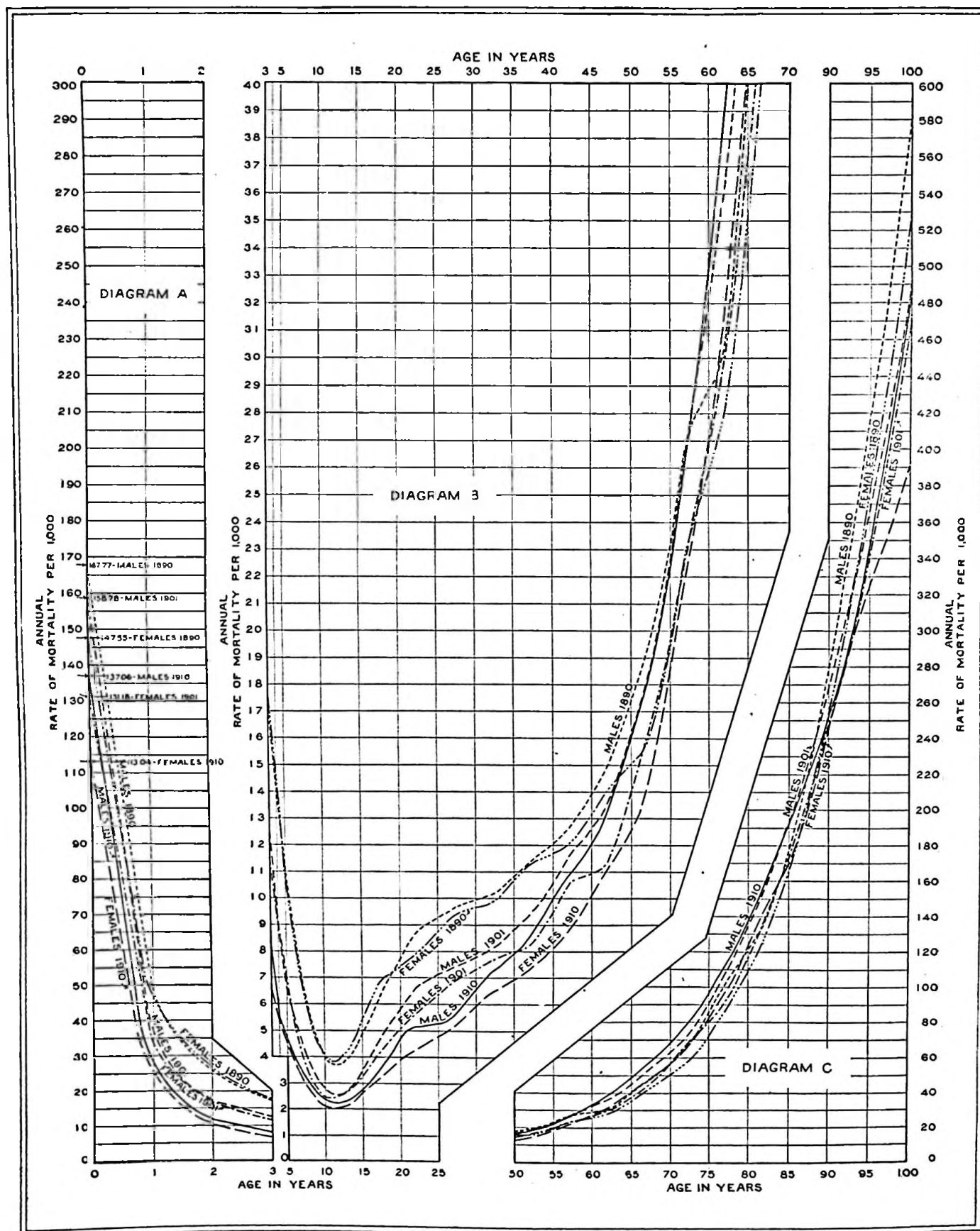
## ANNUAL RATE OF MORTALITY PER THOUSAND

THE STATE OF MASSACHUSETTS

MALES: 1890, 1901, 1910

FEMALES: 1890, 1901, 1910

The values on which these graphs are based may be found in column 4 on the following pages: 132, males, 1890; 134, males, 1901; 136, males, 1910; 138, females, 1890; 140, females, 1901; 142, females, 1910.

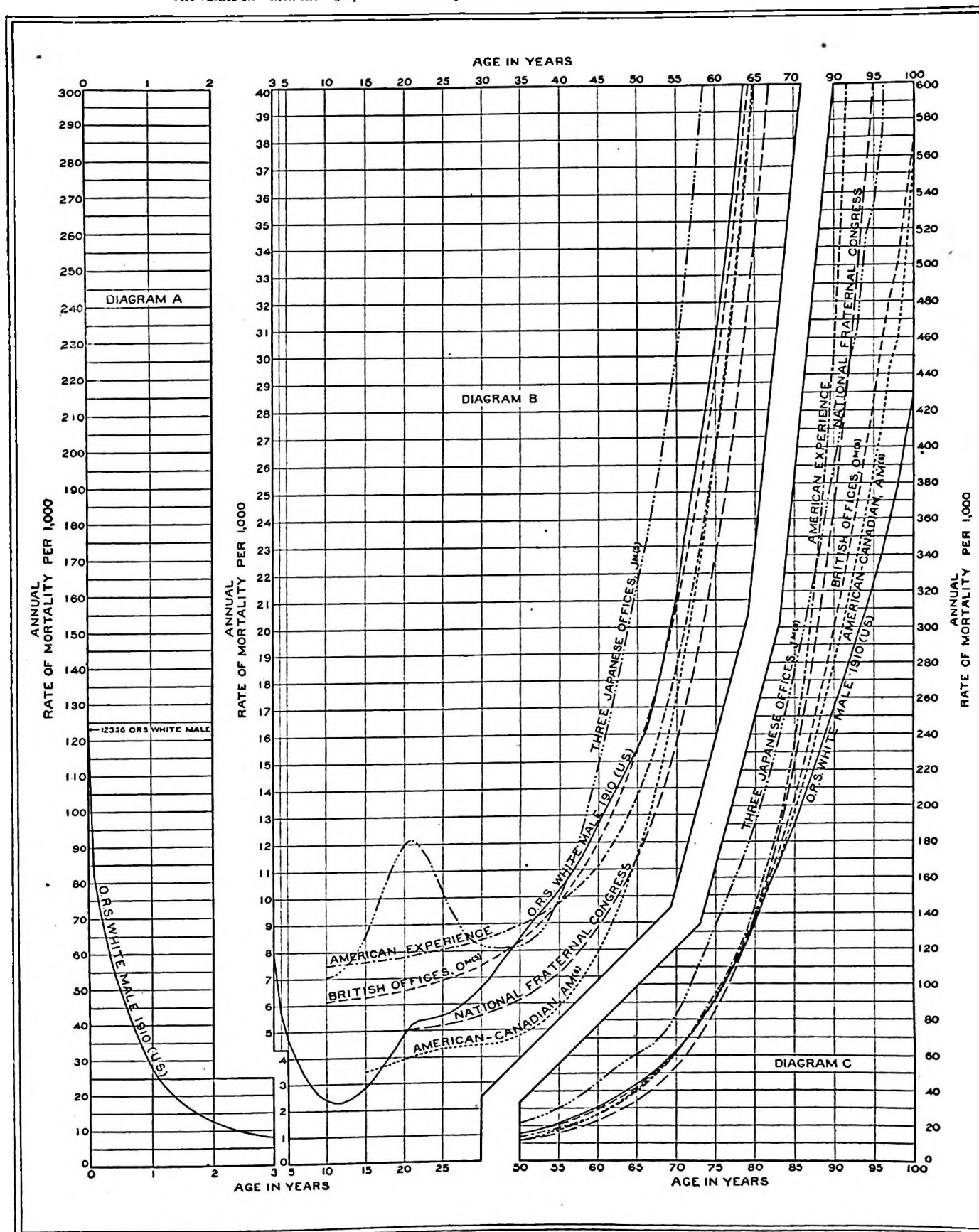


GRAPH 11

## ANNUAL RATE OF MORTALITY PER THOUSAND

AMERICAN EXPERIENCE MORTALITY TABLE: 1870  
 AMERICAN-CANADIAN MORTALITY INVESTIGATION: 1900-1915. AMERICAN MEN. AM<sup>(3)</sup>  
 BRITISH OFFICES LIFE TABLES: 1873-1893. MALES. OM<sup>(4)</sup>  
 THREE JAPANESE OFFICES LIFE TABLES: 1905. MALES. JM<sup>(5)</sup>  
 NATIONAL FRATERNAL CONGRESS MORTALITY TABLE: 1898  
 UNITED STATES. ORIGINAL REGISTRATION STATES: 1900-1911. WHITE MALES

The values on which these graphs are based may be found in columns 2, 4, 5, 8, 10, and 12 of Table 8<sup>5</sup>, page 226.





## UNITED STATES LIFE TABLES.

GRAPH 12

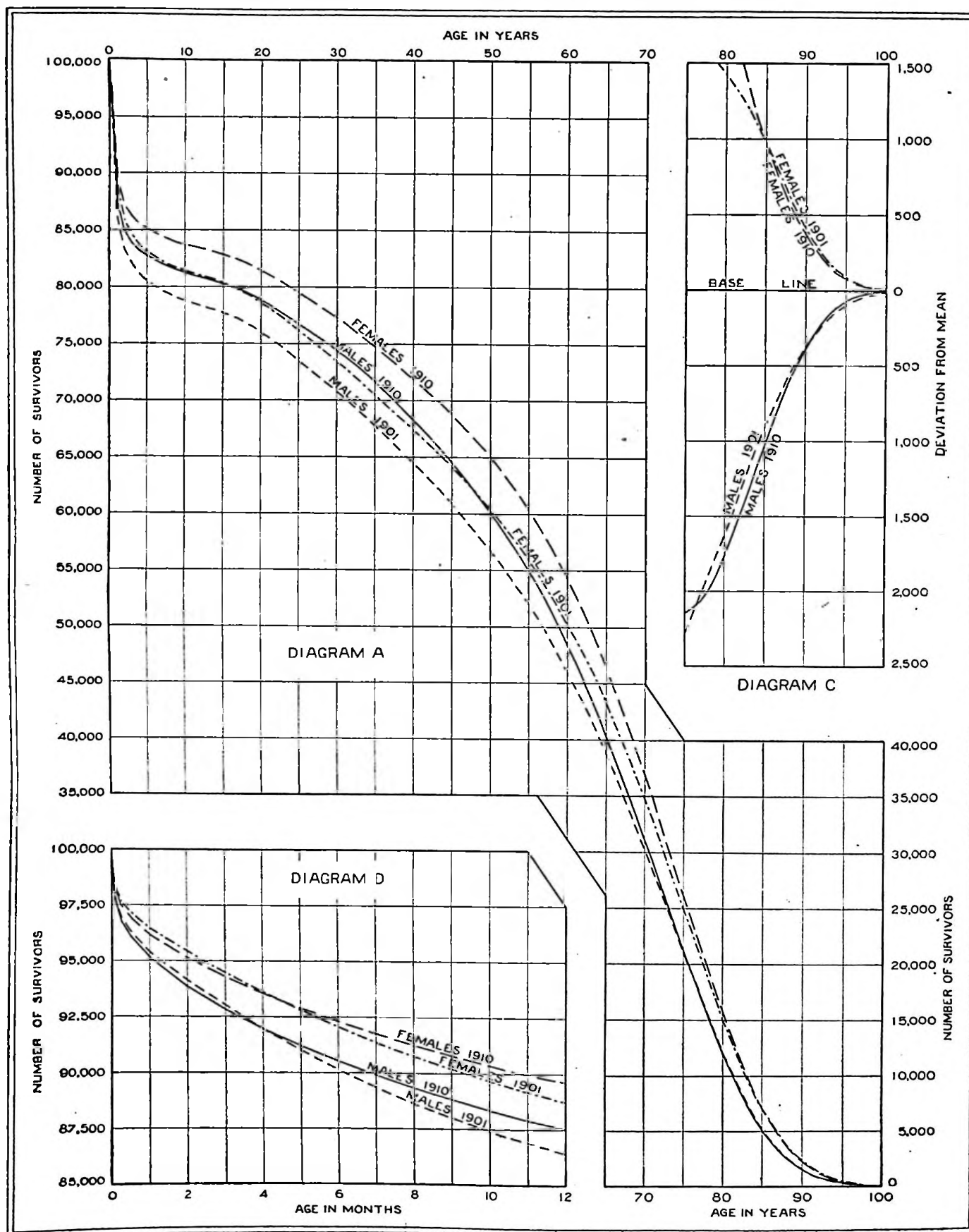
## NUMBER OF SURVIVORS OUT OF 100,000 BORN ALIVE

THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910

FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 2 on the following pages: 56, males, 1901; 58, males, 1910; 60, females, 1901; 62, females, 1910. Values on the base line in Diagram C are the mean of the values of the curves represented.



GRAPH 13

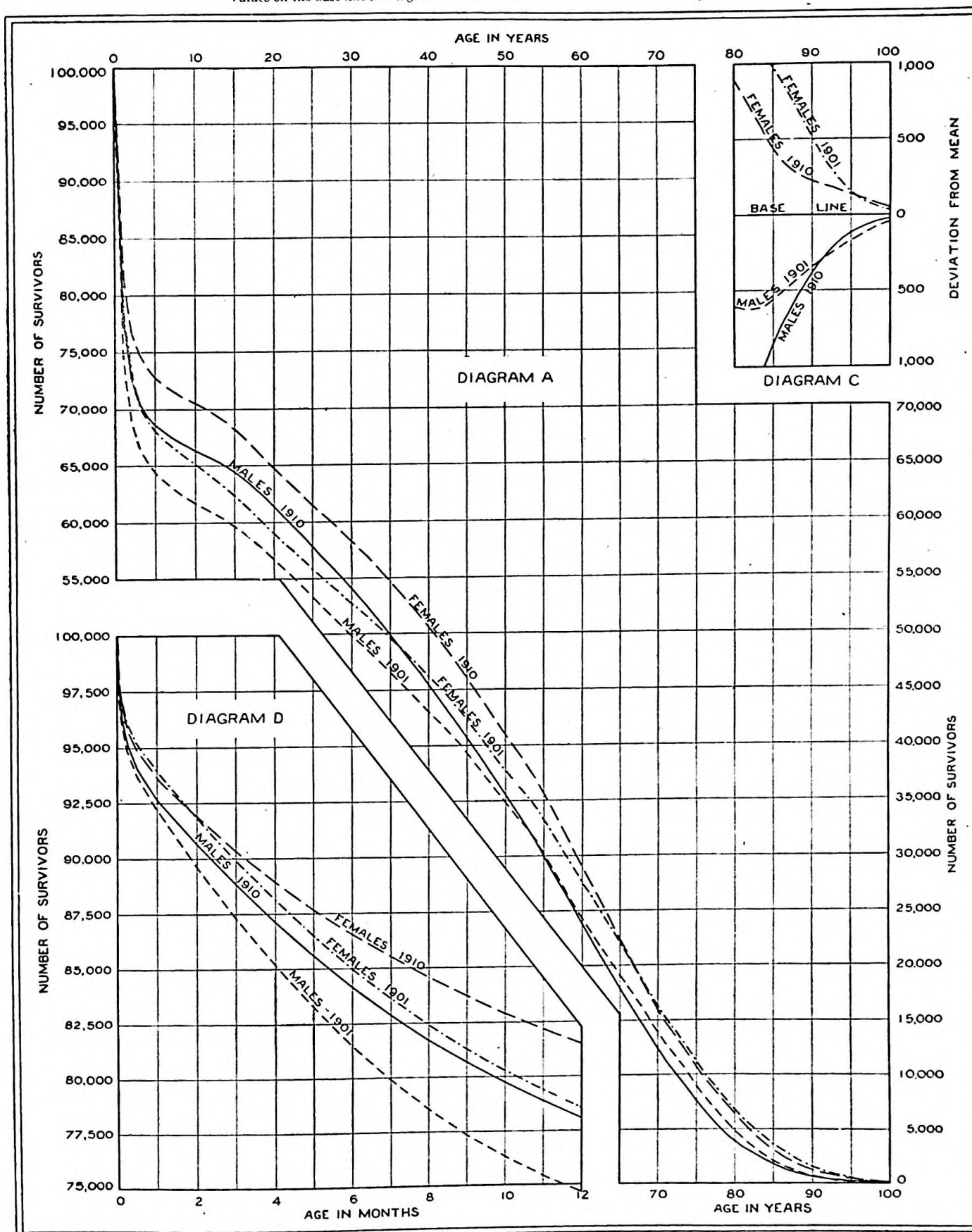
## NUMBER OF SURVIVORS OUT OF 100,000 BORN ALIVE

NEGROES IN THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910

FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 2 on the following pages: 76, males, 1901; 80, males, 1910; 82, females, 1901; 86, females, 1910.  
 Values on the base line in Diagram C are the mean of the values of the curves represented.



## UNITED STATES LIFE TABLES.

GRAPH 14

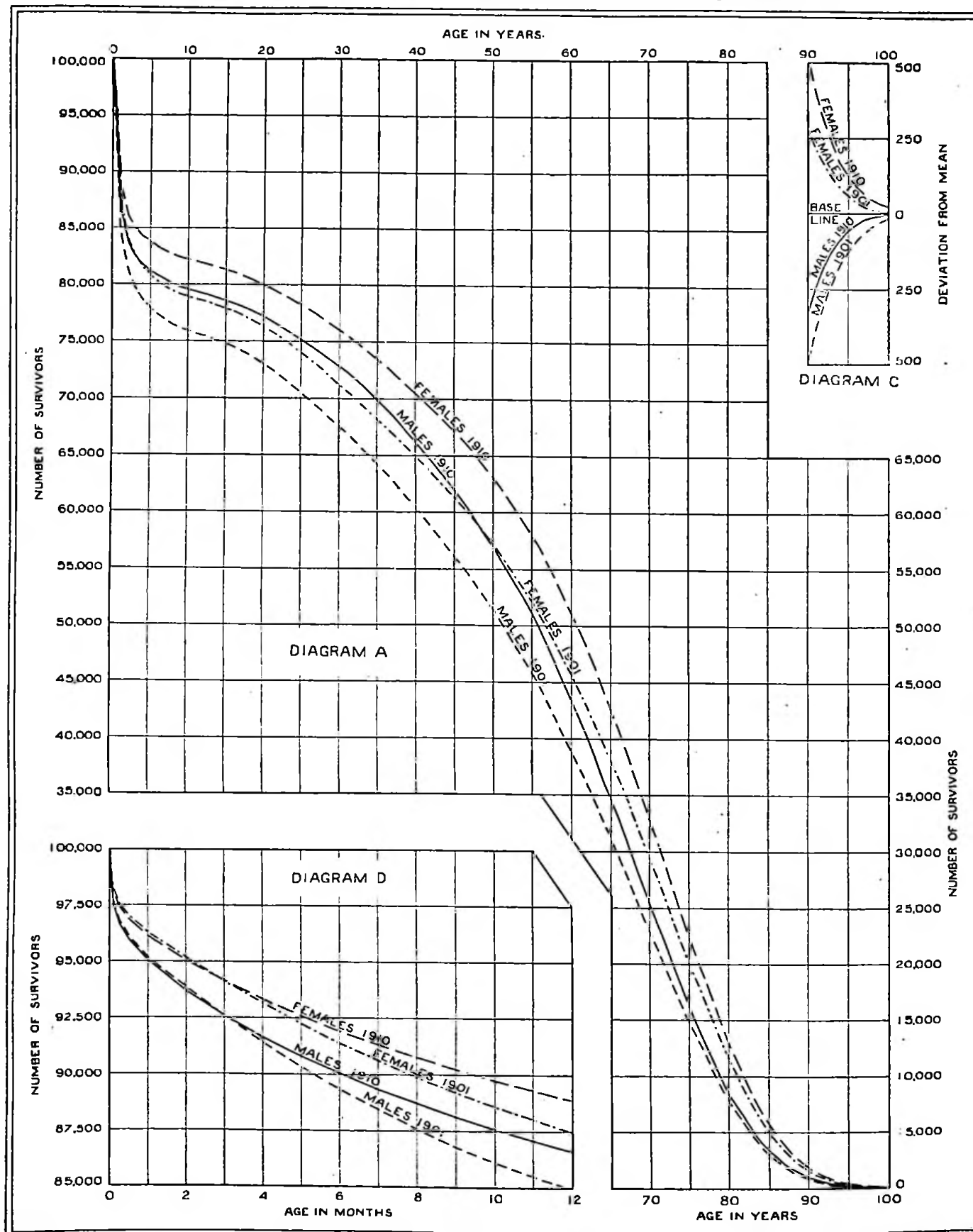
## NUMBER OF SURVIVORS OUT OF 100,000 BORN ALIVE

MALES: 1901, 1910

WHITES IN CITIES OF THE ORIGINAL REGISTRATION STATES

FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 2 on the following pages: 104, males, 1901; 106, males, 1910; 108, females, 1901; 110, females, 1910. Values on the base line in Diagram C are the mean of the values of the curves represented.



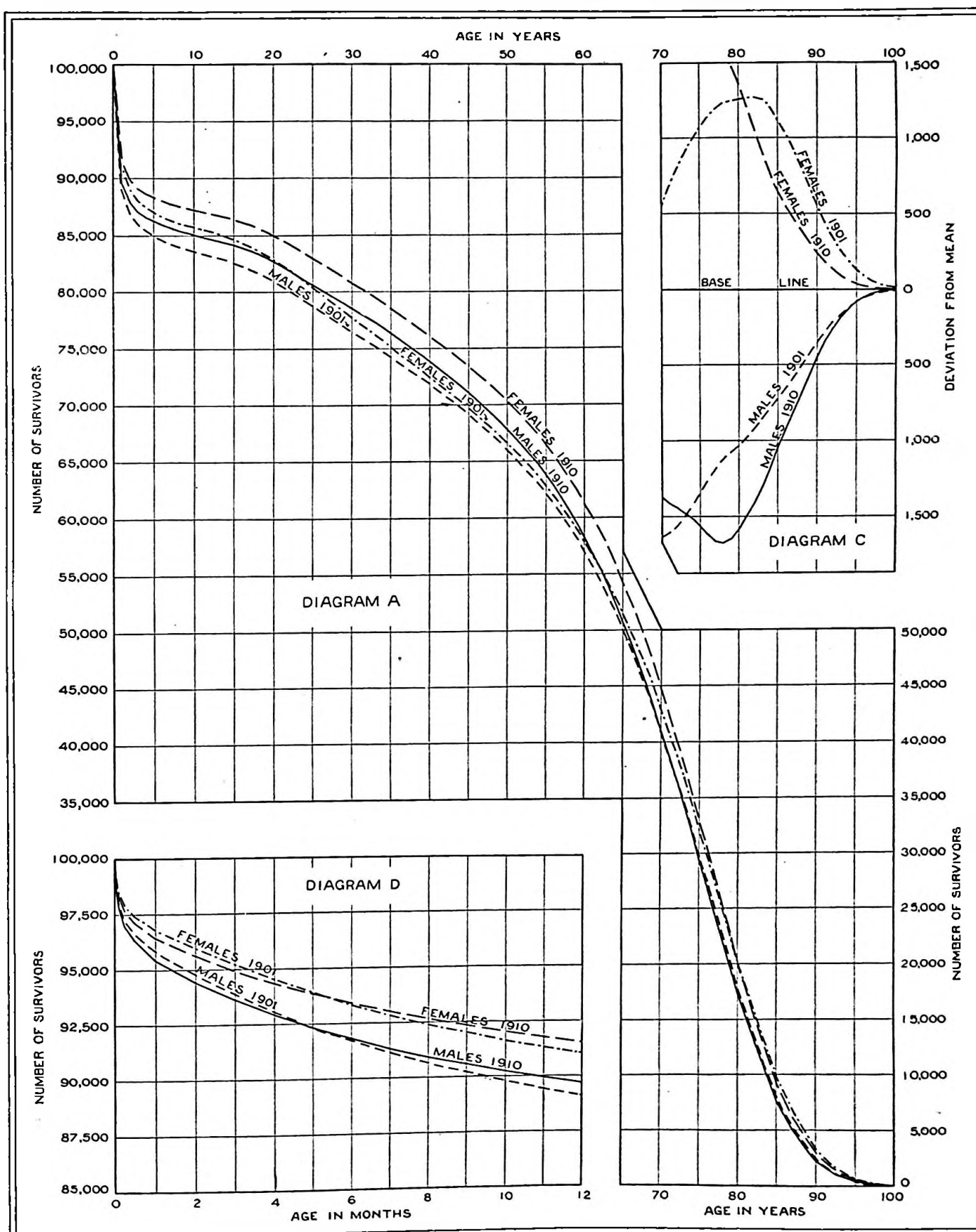
GRAPH 15

NUMBER OF SURVIVORS OUT OF 100,000 BORN ALIVE  
WHITES IN RURAL PART OF THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910

FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 2 on the following pages: 112, males, 1901; 114, males, 1910; 116, females, 1901; 118, females, 1910. Values on the base line in Diagram C are the mean of the values of the curves represented.



GRAPH 16

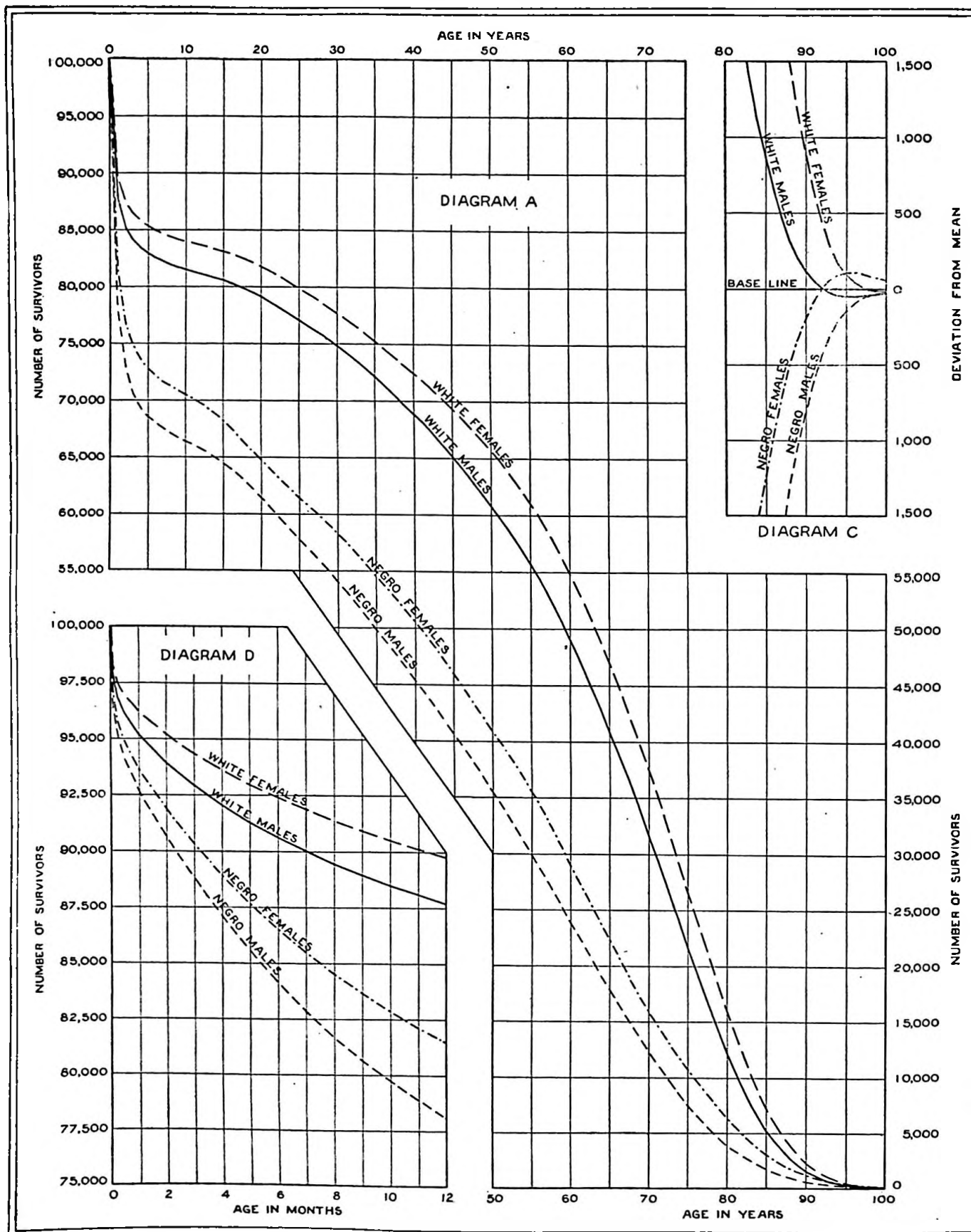
## NUMBER OF SURVIVORS OUT OF 100,000 BORN ALIVE

MALES: 1910

WHITES AND NEGROES IN THE ORIGINAL REGISTRATION STATES

FEMALES: 1910

The values on which these graphs are based may be found in column 2 on the following pages: 68, white males; 74, white females; 80, Negro males; 86, Negro females. Values on the base line in Diagram C are the mean of the values of the curves represented.





GRAPH 17

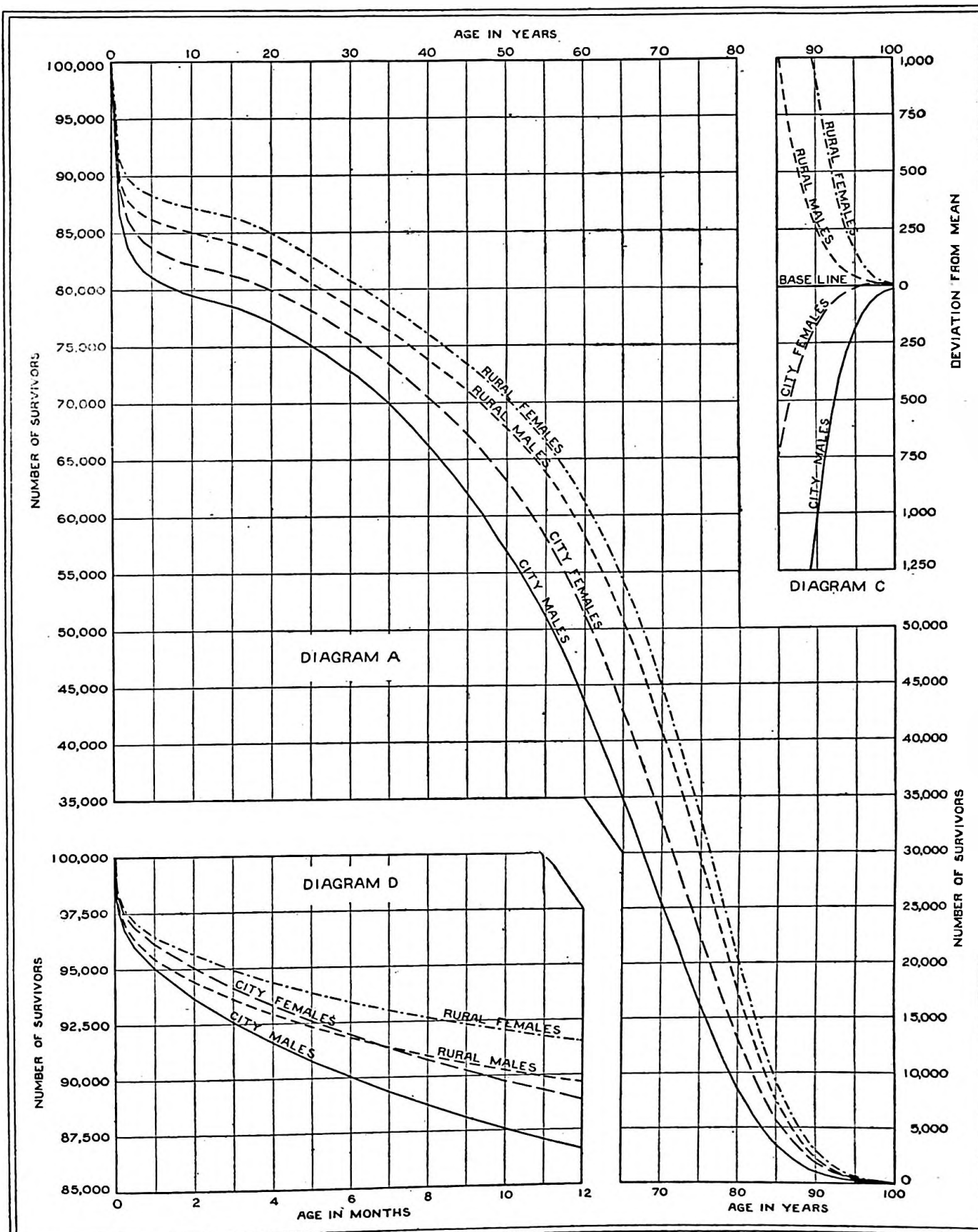
NUMBER OF SURVIVORS OUT OF 100,000 BORN ALIVE

WHITES IN CITIES AND IN RURAL PART OF THE ORIGINAL REGISTRATION STATES

MALES: 1910

FEMALES: 1910

The values on which these graphs are based may be found in column 2 on the following pages: 106, city males; 110, city females; 114, rural males; 118, rural females. Values on the base line in Diagram C are the mean of the values of the curves represented.



## UNITED STATES LIFE TABLES.

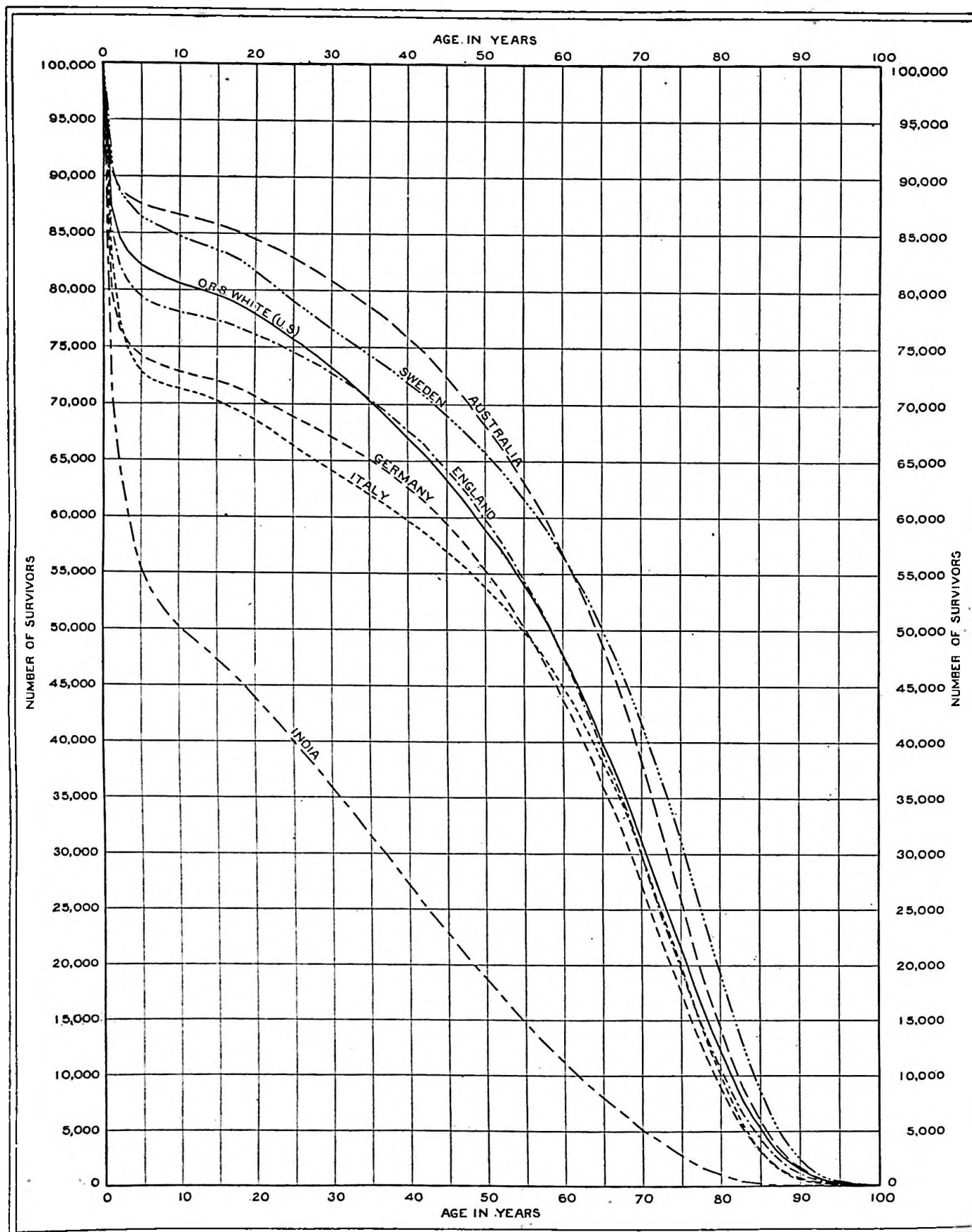
GRAPH 18

## NUMBER OF SURVIVORS OUT OF 100,000 BORN ALIVE

AUSTRALIA, ENGLAND, GERMANY, INDIA, ITALY, SWEDEN, AND WHITES IN THE ORIGINAL REGISTRATION STATES

MALES: 1901-1910

The values on which these graphs are based may be found in columns 2, 4, 6, 8, 9, 12, and 14 of Table 77, page 208.





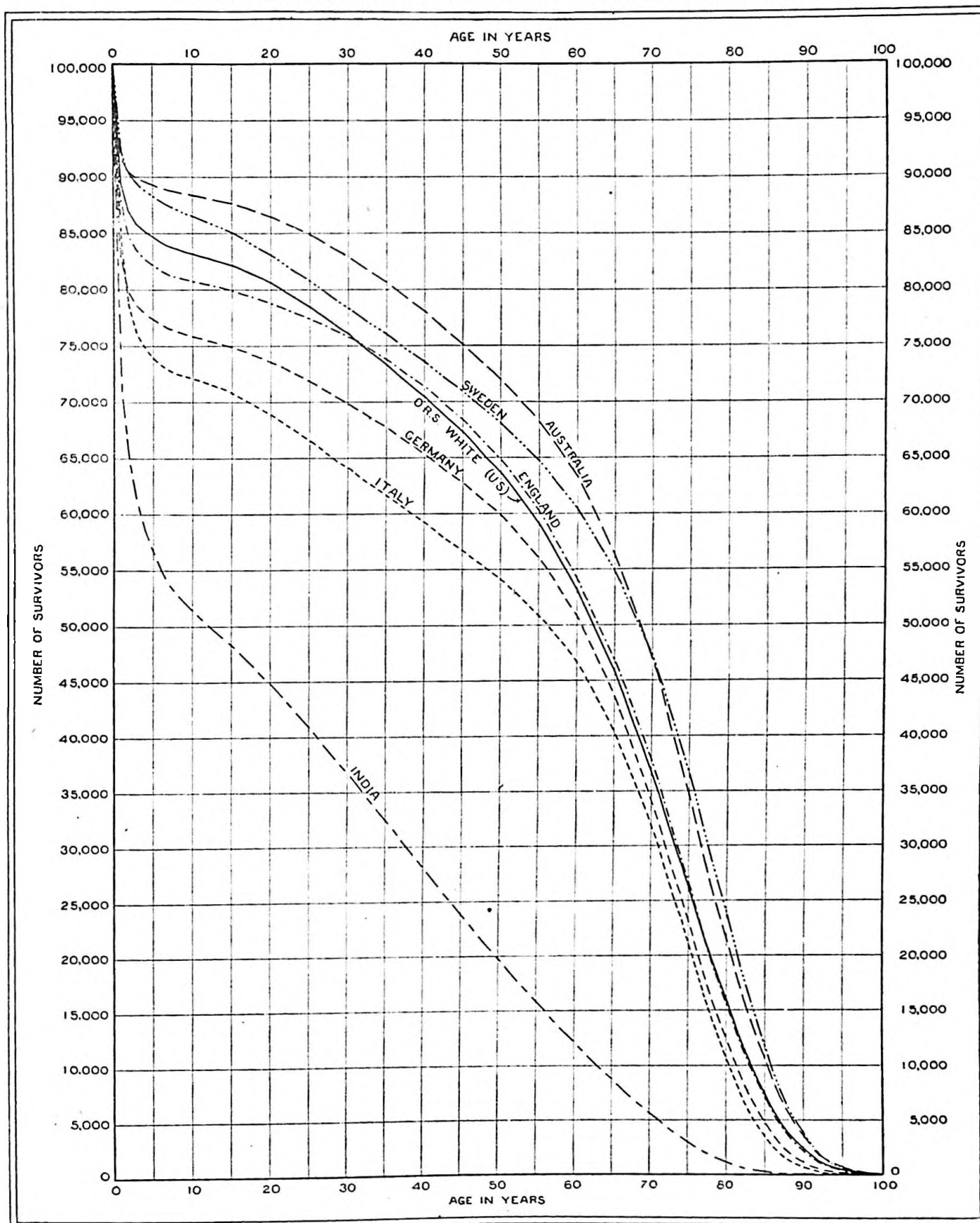
GRAPH 19

## NUMBER OF SURVIVORS OUT OF 100,000 BORN ALIVE

AUSTRALIA, ENGLAND, GERMANY, INDIA, ITALY, SWEDEN, AND WHITES IN THE ORIGINAL REGISTRATION STATES

FEMALES: 1901-1910

The values on which these graphs are based may be found in columns 2, 4, 6, 8, 9, 12, and 14 of Table 78, page 210.



## UNITED STATES LIFE TABLES.

GRAPH 20

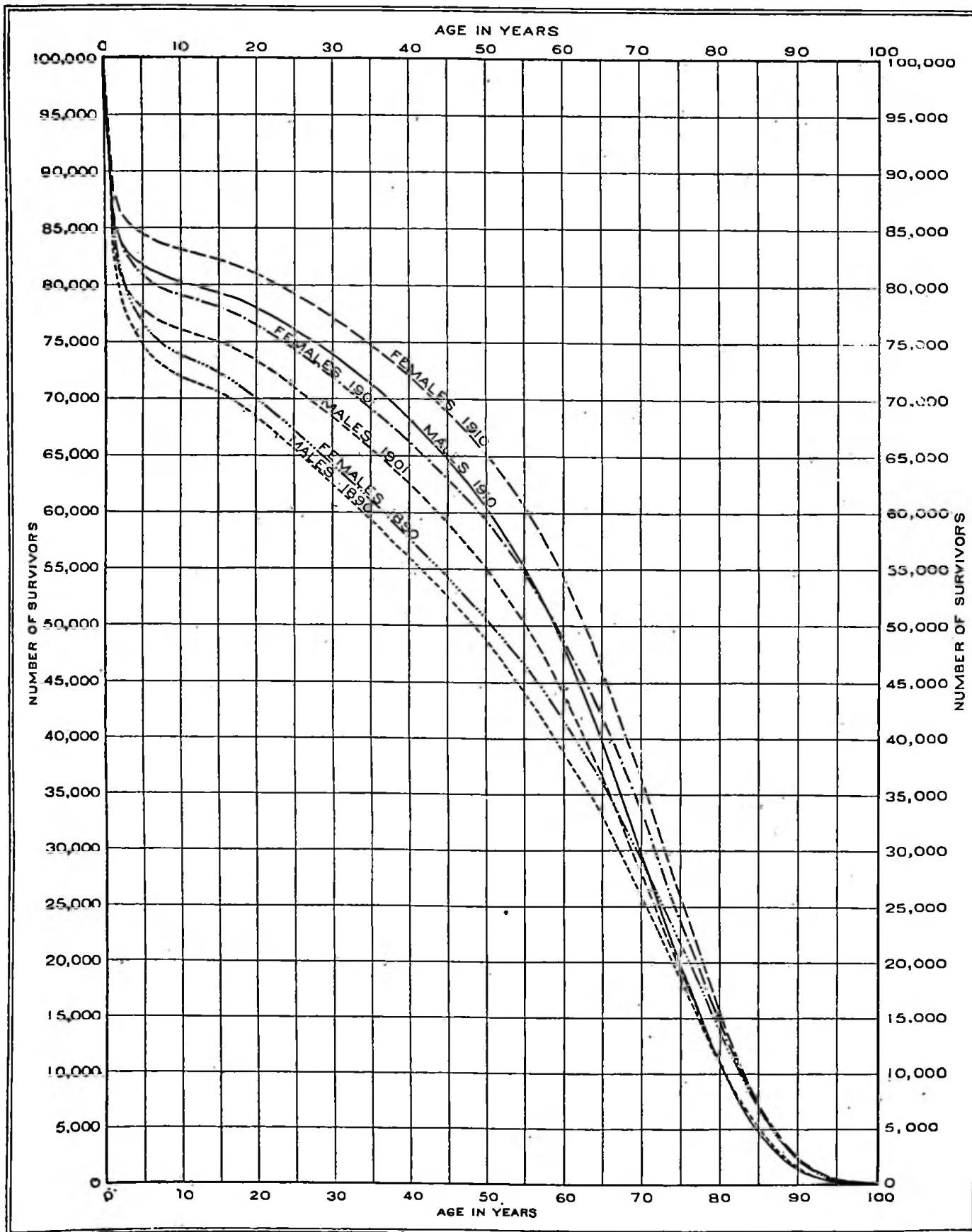
NUMBER OF SURVIVORS OUT OF 100,000 BORN ALIVE

MALES: 1890, 1901, 1910

THE STATE OF MASSACHUSETTS

FEMALES: 1890, 1901, 1910

The values on which these graphs are based may be found in column 2 on the following pages: 132, males, 1890; 134, males, 1901; 136, males, 1910; 138, females, 1890; 140, females, 1901; 142, females, 1910.

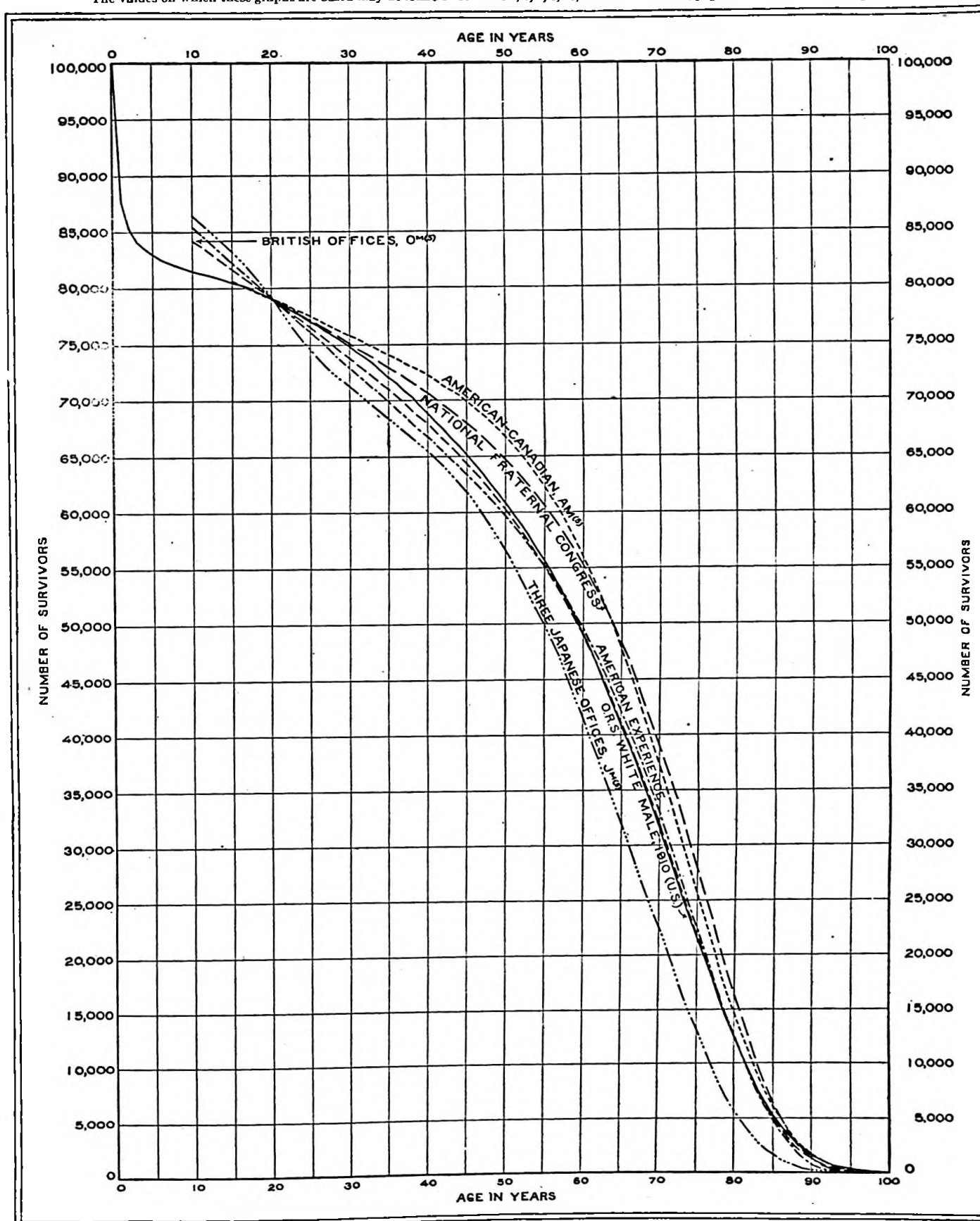


GRAPH 21

## NUMBER OF SURVIVORS OUT OF 79,116 AT AGE 20

AMERICAN EXPERIENCE MORTALITY TABLE: 1860  
 AMERICAN-CANADIAN MORTALITY INVESTIGATION: 1900-1915. AMERICAN MEN. AM(6)  
 BRITISH OFFICES LIFE TABLES: 1863-1893. MALES. OM(6)  
 THREE JAPANESE OFFICES LIFE TABLES: 1905. MALES. JM(6)  
 NATIONAL FRATERNAL CONGRESS MORTALITY TABLE: 1898  
 UNITED STATES. ORIGINAL REGISTRATION STATES: 1909-1911. WHITE MALES

The values on which these graphs are based may be found in columns 2, 4, 5, 8, 10, and 12 of Table 86, page 228. See section 79, page 46.



GRAPH 22

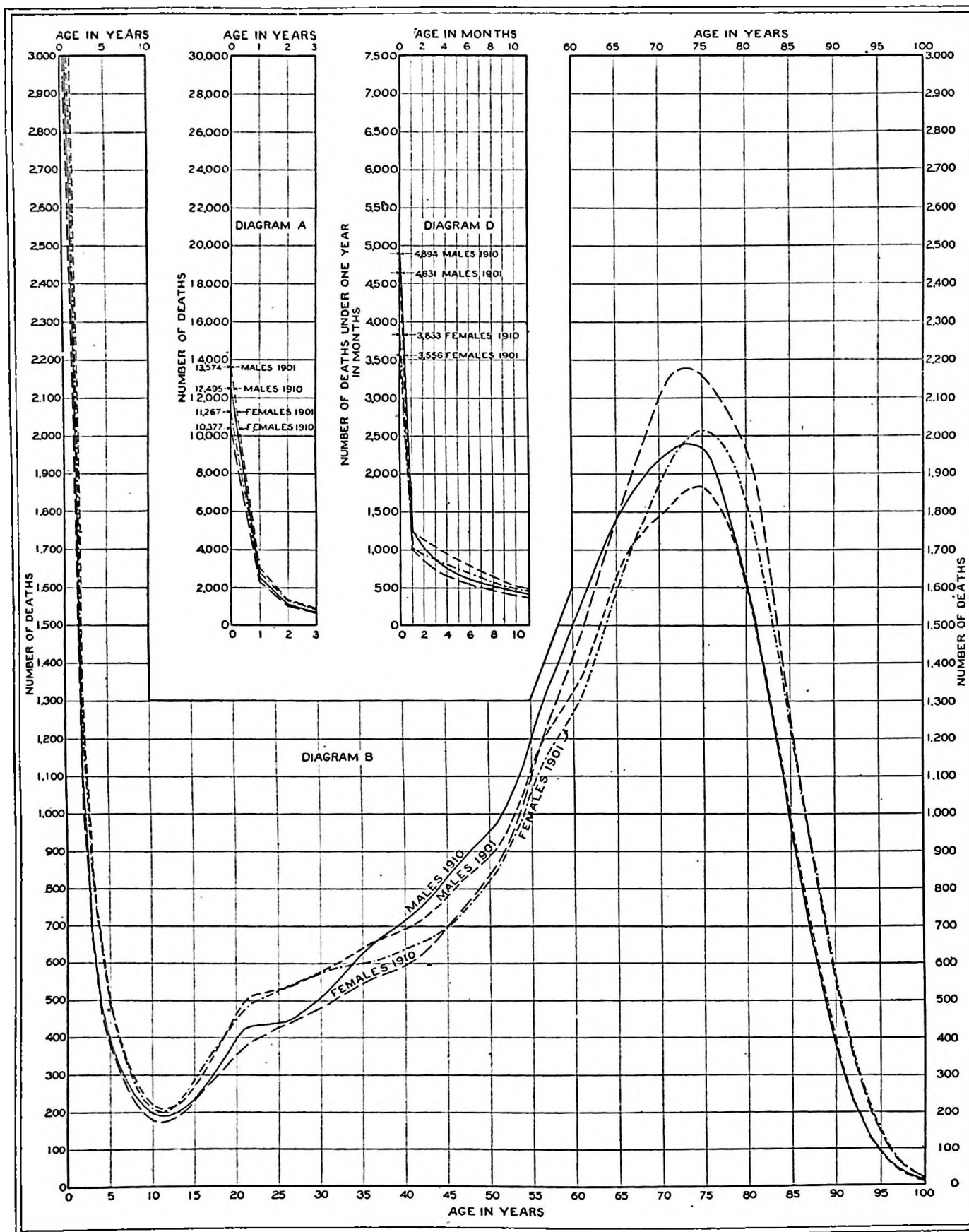
## NUMBER OF DEATHS OUT OF 100,000 BORN ALIVE

THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910

FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 3 on the following pages: 56, males, 1901; 58, males, 1910; 60, females, 1901; 62, females, 1910.



GRAPH 23

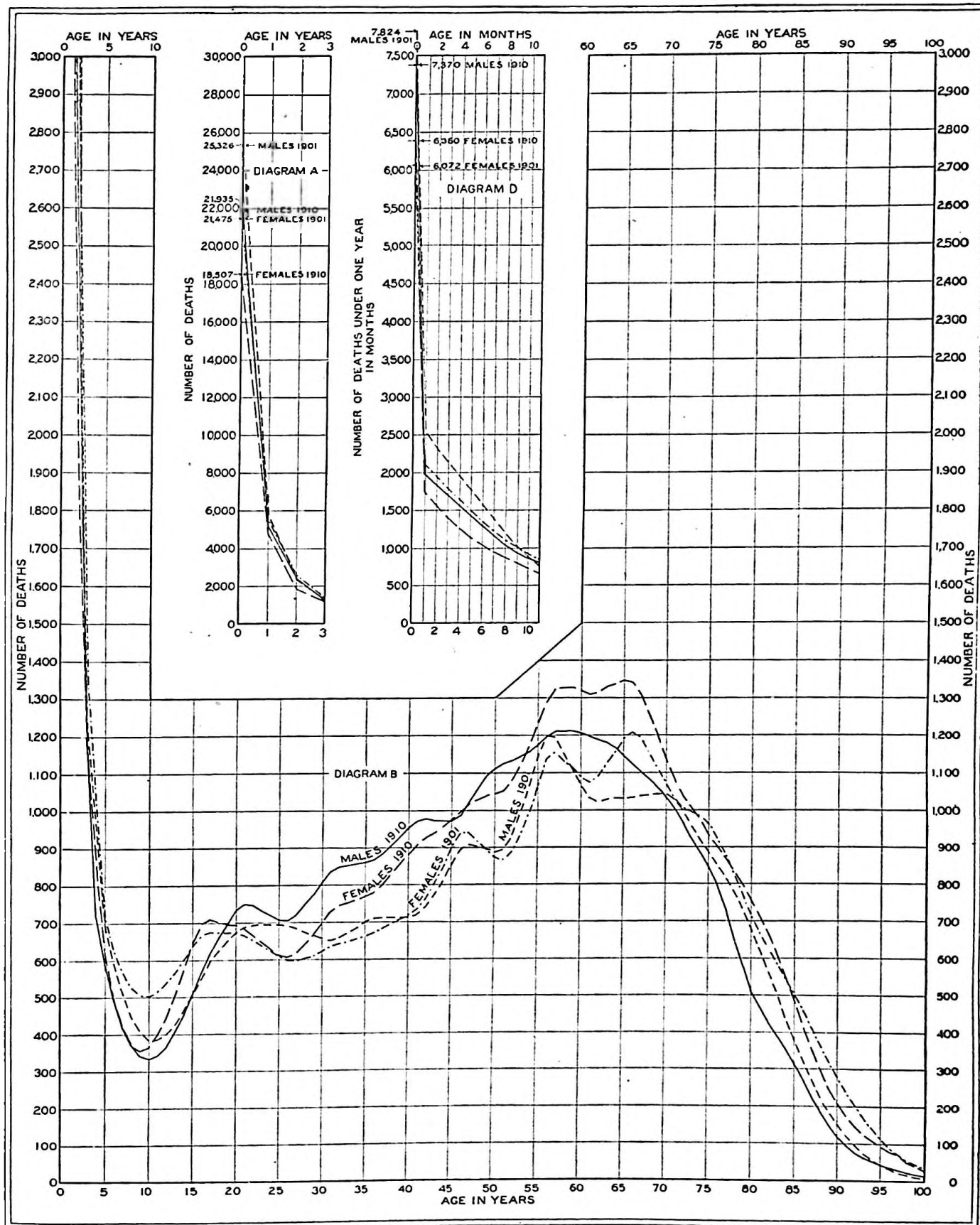
NUMBER OF DEATHS OUT OF 100,000 BORN ALIVE

NEGROES IN THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910

FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 3 on the following pages: 76, males, 1901; 80, males, 1910; 82, females, 1901; 86, females, 1910.





GRAPH 24

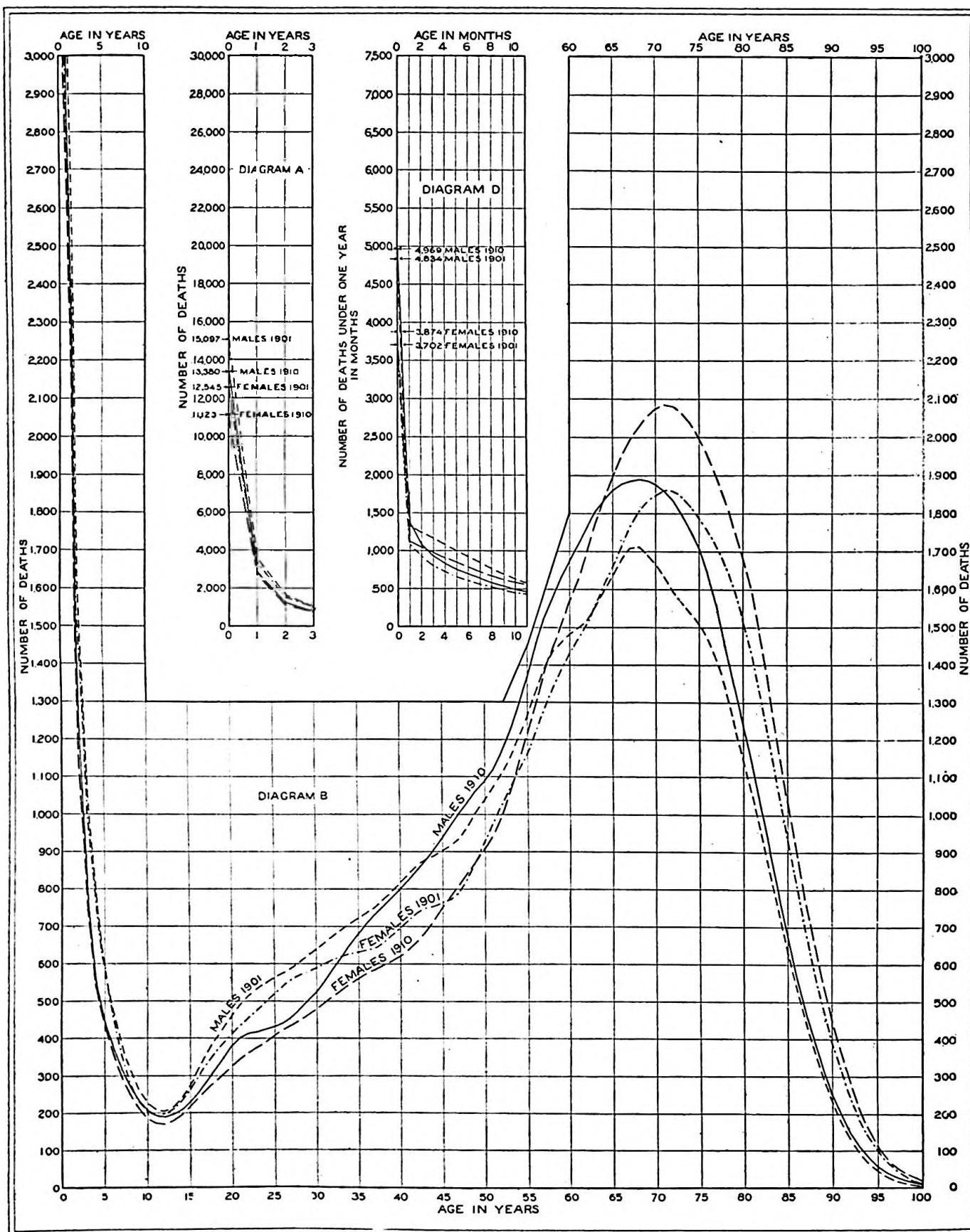
## NUMBER OF DEATHS OUT OF 100,000 BORN ALIVE

WHITES IN CITIES OF THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910

FEMALES: 1901, 1910

The values on which the graphs are based may be found in column 3 on the following pages: 104, males, 1901; 106, males, 1910; 108, females, 1901; 110, females, 1910.



GRAPH 25

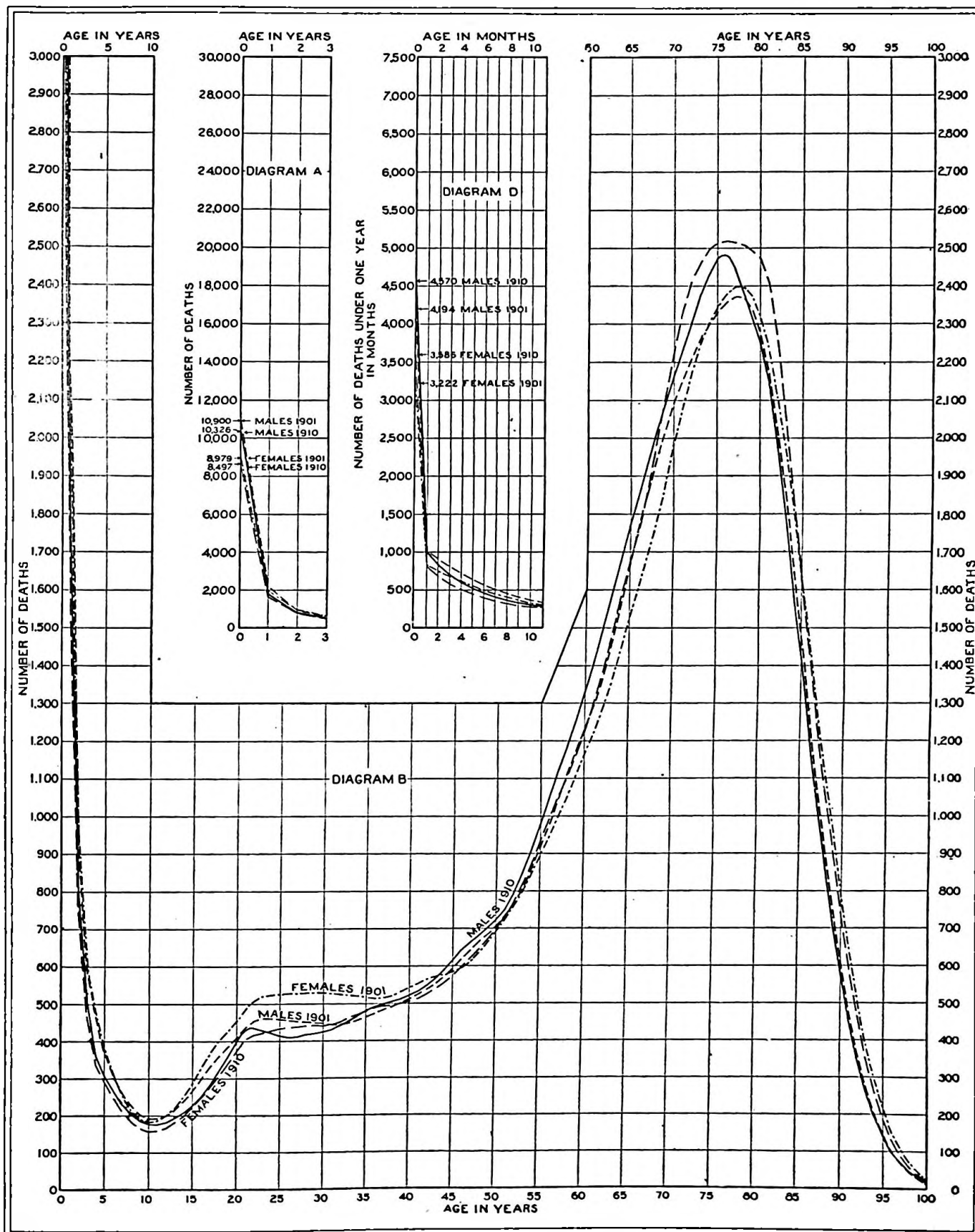
## NUMBER OF DEATHS OUT OF 100,000 BORN ALIVE

WHITES IN THE RURAL PART OF THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910

FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 3 on the following pages: 112, males, 1901; 114, males, 1910; 116, females, 1901; 118, females, 1910.





## UNITED STATES LIFE TABLES.

GRAPH 26

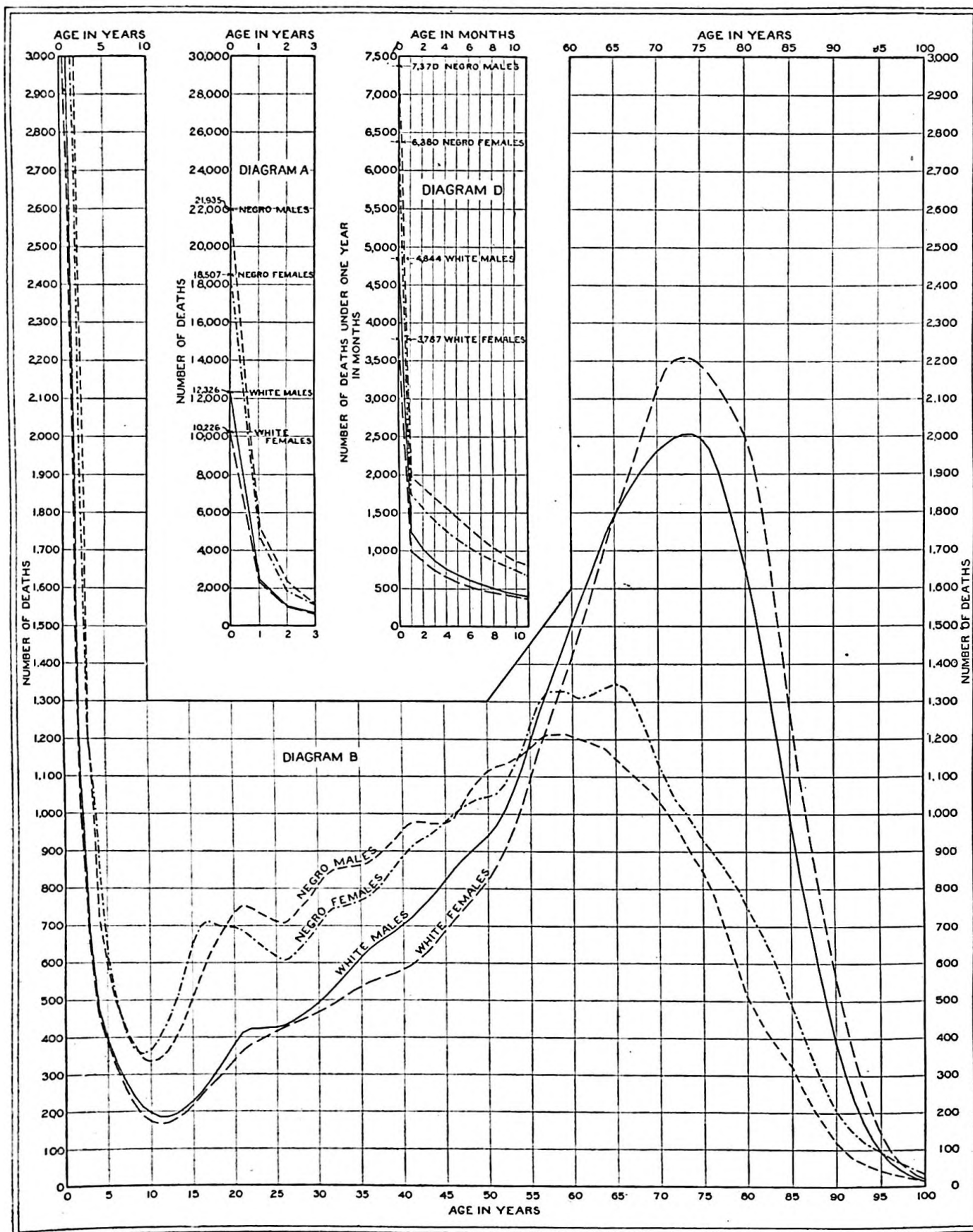
## NUMBER OF DEATHS OUT OF 100,000 BORN ALIVE

WHITES AND NEGROES IN THE ORIGINAL REGISTRATION STATES

MALES: 1910

FEMALES: 1910

The values on which these graphs are based may be found in column 3 on the following pages: 68, white males; 71, white females; 89, Negro males; 86, Negro females.



GRAPH 27

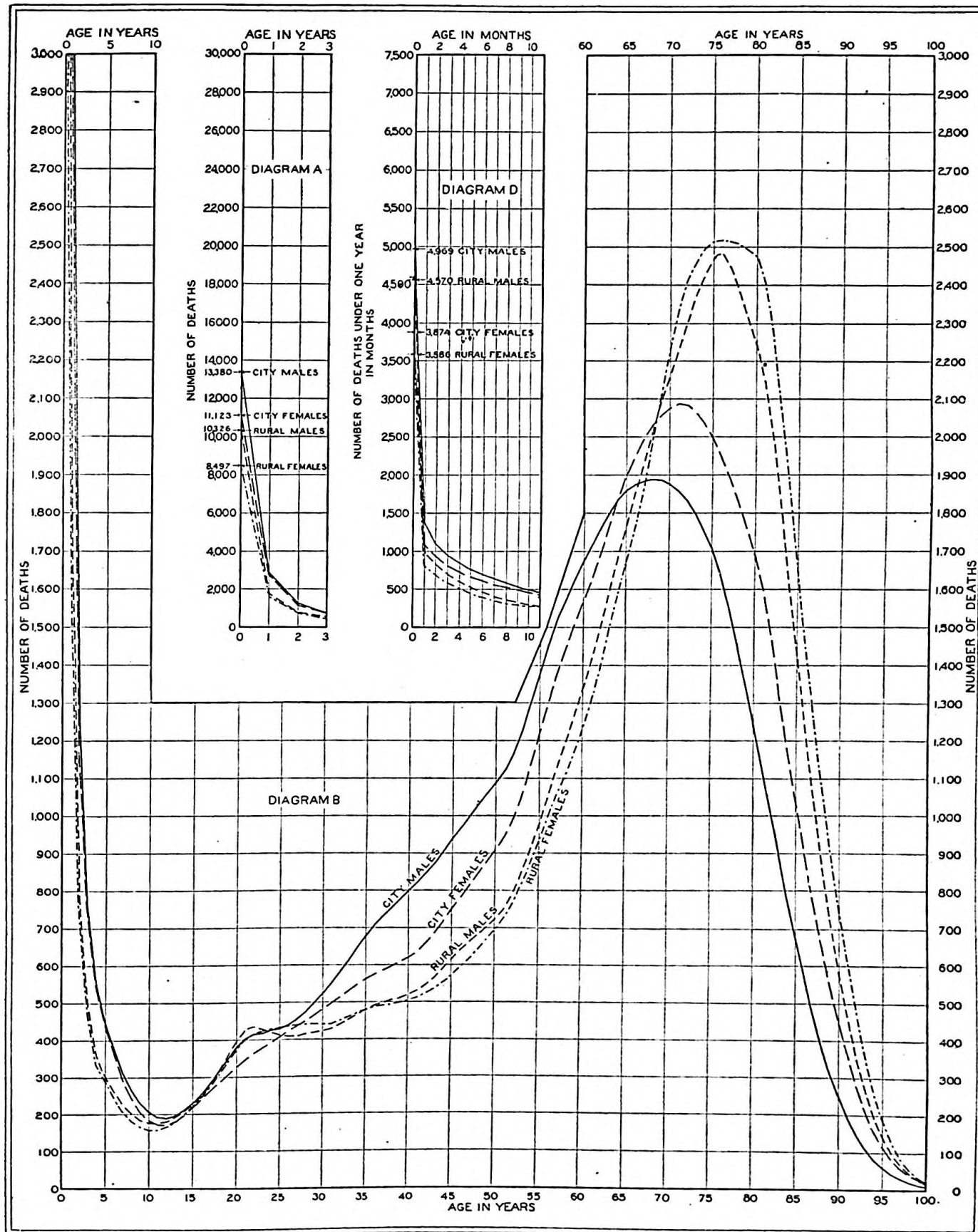
NUMBER OF DEATHS OUT OF 100,000 BORN ALIVE

WHITES IN CITIES AND IN RURAL PART OF THE ORIGINAL REGISTRATION STATES

MALES: 1910

FEMALES: 1910

The values on which these graphs are based may be found in column 3 on the following pages: 106, city males; 110, city females; 114, rural males; 118, rural females.



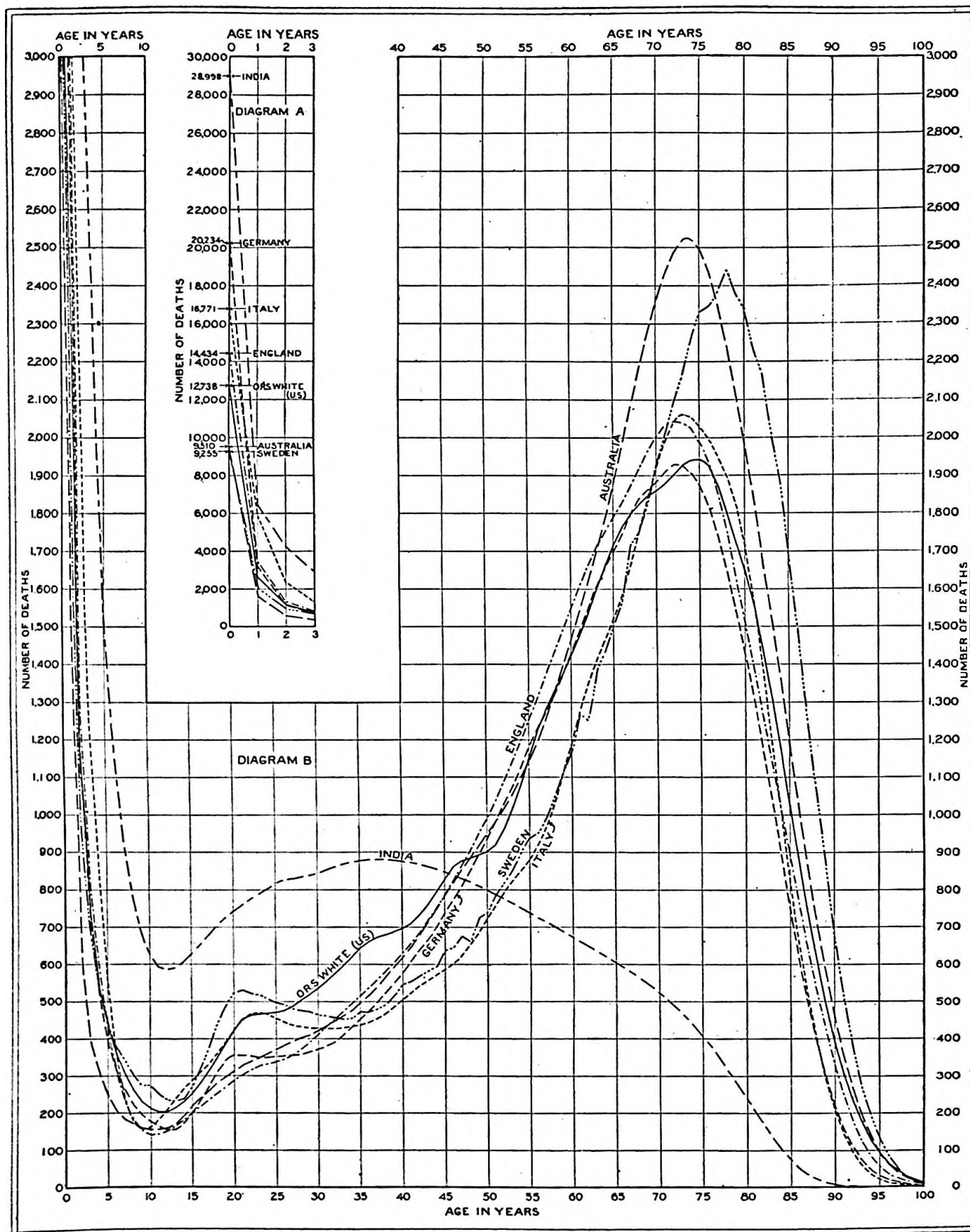
GRAPH 28

## NUMBER OF DEATHS OUT OF 100,000 BORN ALIVE

AUSTRALIA, ENGLAND, GERMANY, INDIA, ITALY, SWEDEN, AND WHITES IN THE ORIGINAL REGISTRATION STATES

MALES 1901-1910

The values on which these graphs are based may be found in columns 2, 4, 6, 8, 9, 12, and 14 of Table 79, page 212.



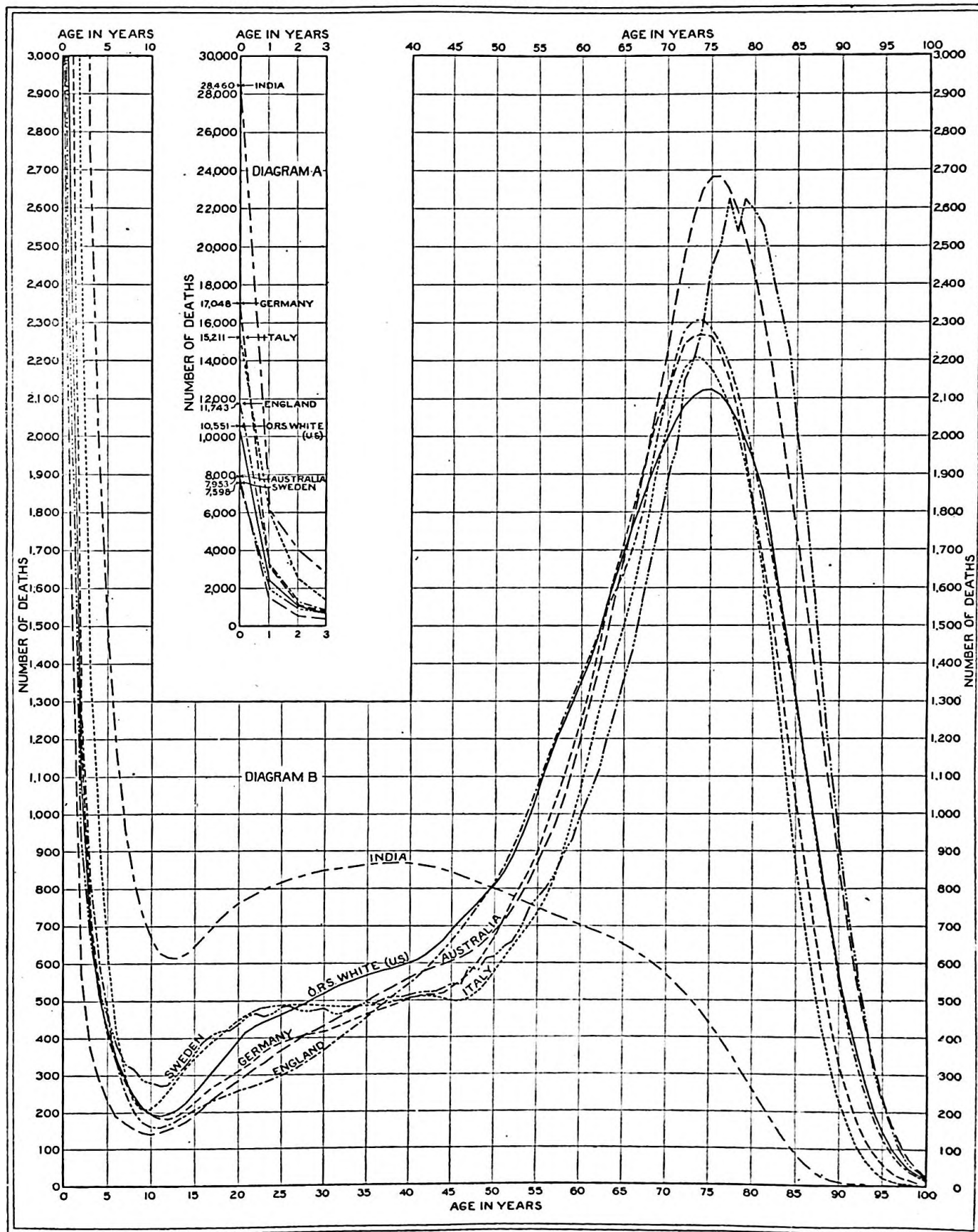
GRAPH 29

NUMBER OF DEATHS OUT OF 100,000 BORN ALIVE

AUSTRALIA, ENGLAND, GERMANY, INDIA, ITALY, SWEDEN, AND WHITES IN THE ORIGINAL REGISTRATION STATES

FEMALES: 1901-1910

The value on which these graphs are based may be found in columns 2, 4, 6, 8, 9, 12, and 14 of Table 80, page 214.





GRAPH 30

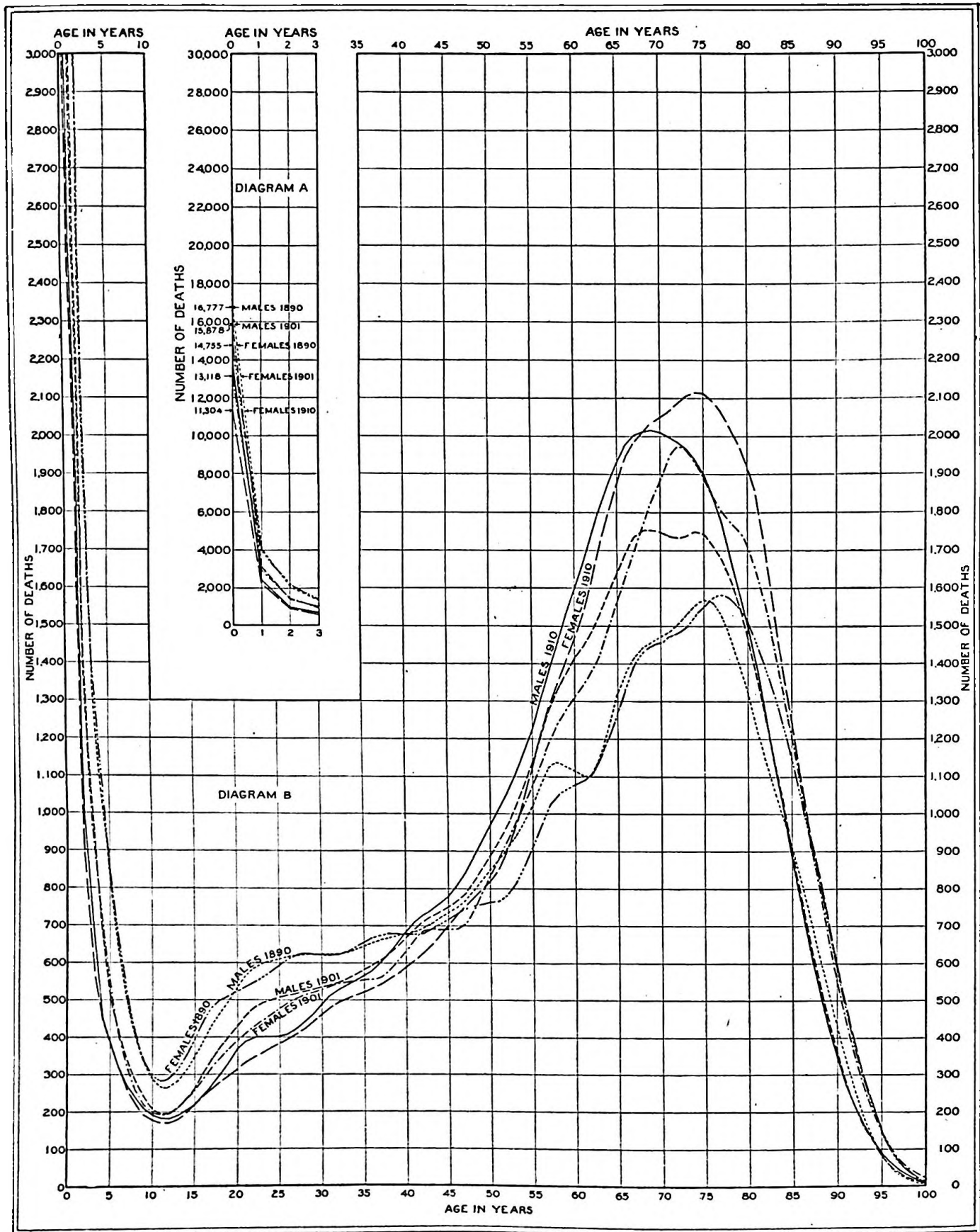
## NUMBER OF DEATHS OUT OF 100,000 BORN ALIVE

THE STATE OF MASSACHUSETTS

MALES: 1890, 1901, 1910

FEMALES: 1890, 1901, 1910

The values on which these graphs are based may be found in column 3 on the following pages: 132, males, 1890; 131, males, 1901; 136, males, 1910; 138, females, 1890; 140, females, 1901; 142, females, 1910.

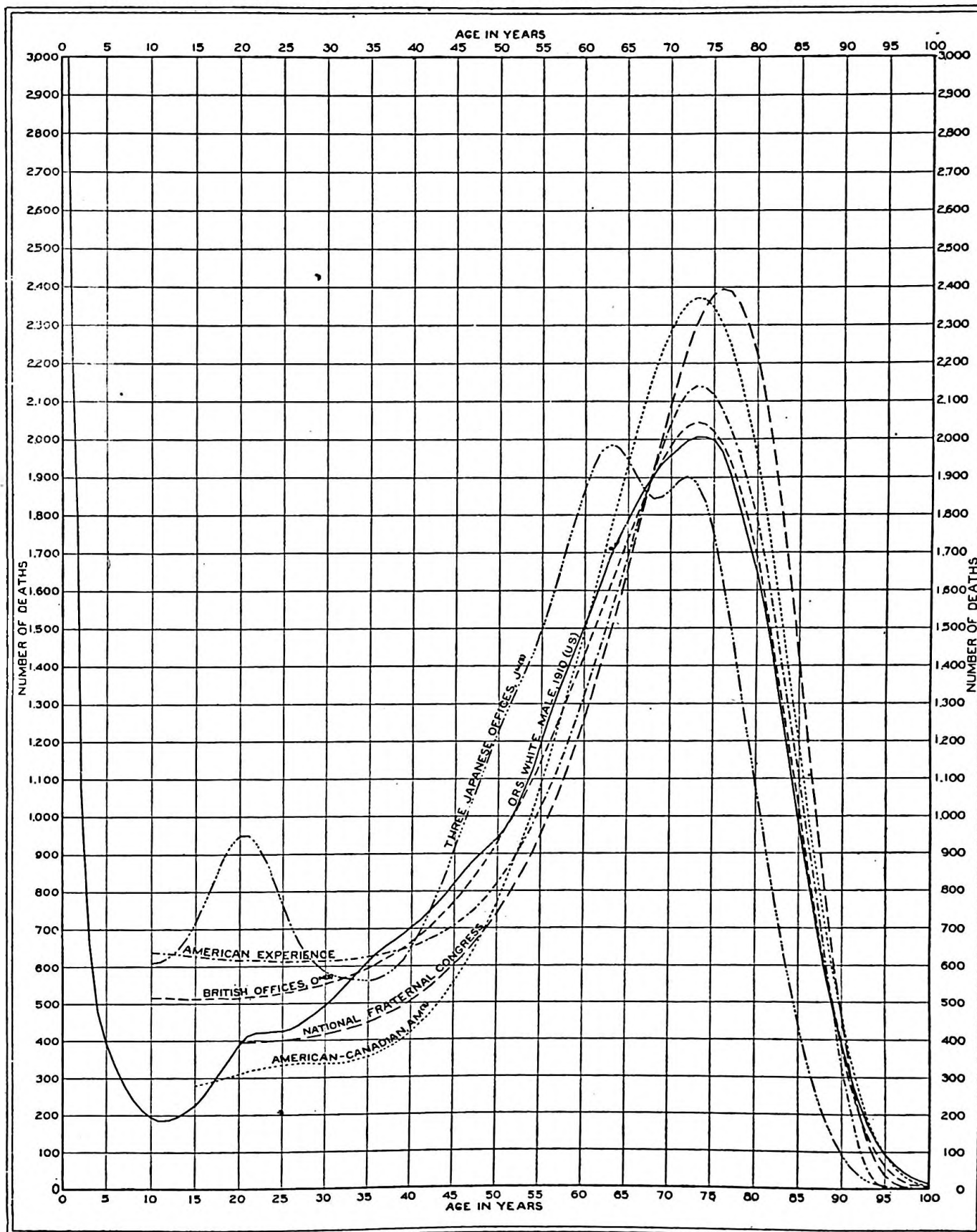


GRAPH 31

## NUMBER OF DEATHS OUT OF 79,116 ALIVE AT AGE 20

AMERICAN EXPERIENCE MORTALITY TABLE: 1860  
 AMERICAN-CANADIAN MORTALITY INVESTIGATION: 1900-1915, AMERICAN MEN. AM(0)  
 BRITISH OFFICES LIFE TABLES: 1863-1893, MALES. O\*(0)  
 THREE JAPANESE OFFICES LIFE TABLES: 1905, MALES. JM(0)  
 NATIONAL FRATERNAL CONGRESS MORTALITY TABLE: 1893  
 UNITED STATES. ORIGINAL REGISTRATION STATES: 1900-1911. WHITE MALES

The values on which these graphs are based may be found in columns 2, 4, 5, 8, 10, and 12 of Table 87, page 230. See section 79, page 46.



## UNITED STATES LIFE TABLES.

GRAPH 32

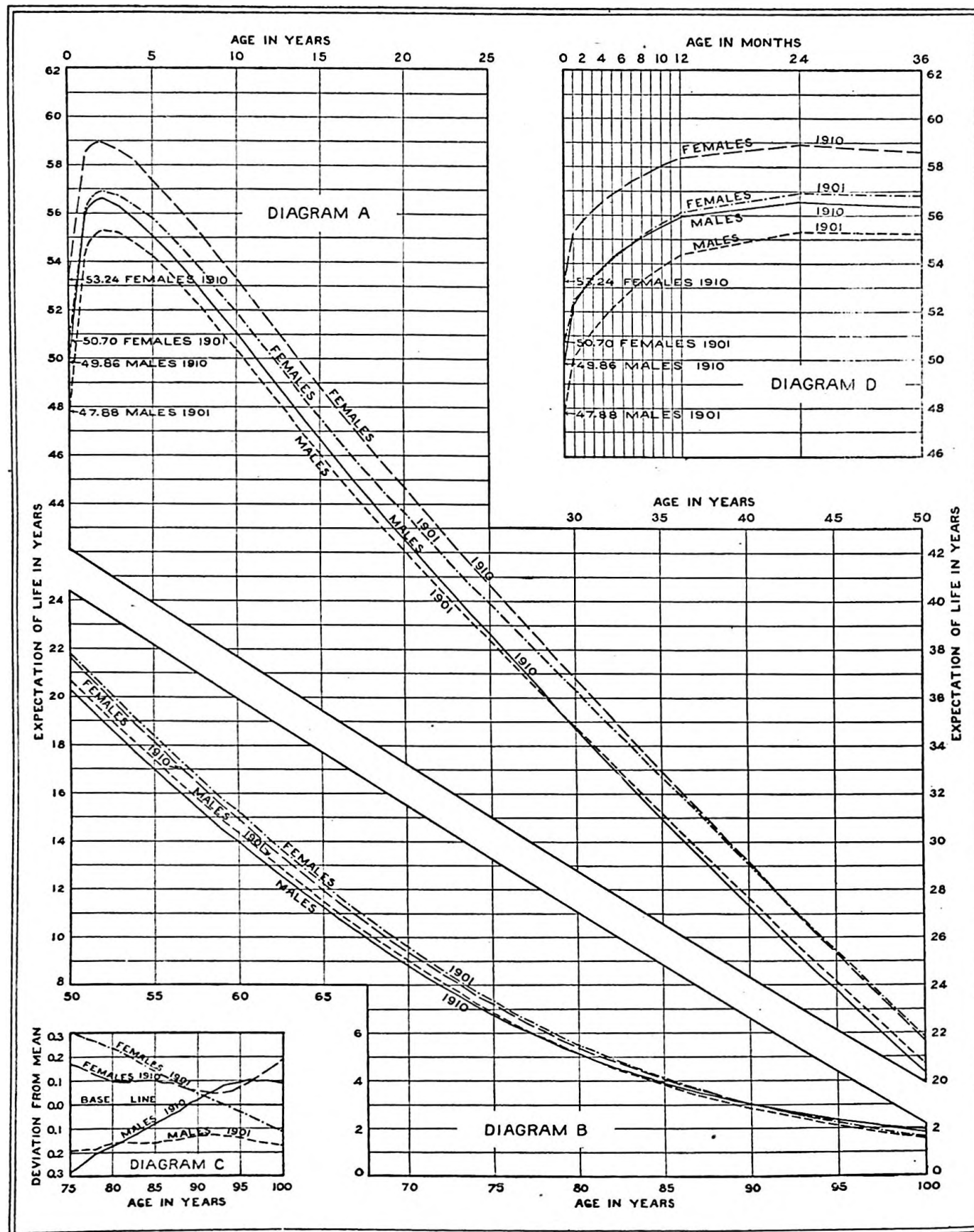
## COMPLETE EXPECTATION OF LIFE

MALES: 1901, 1910

ORIGINAL REGISTRATION STATES

FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 5 on the following pages: 56, males, 1901; 58, males, 1910; 60, females, 1901; 62, females, 1910. Values on the base line in Diagram C are the mean of the values of the curves represented.





GRAPH 33

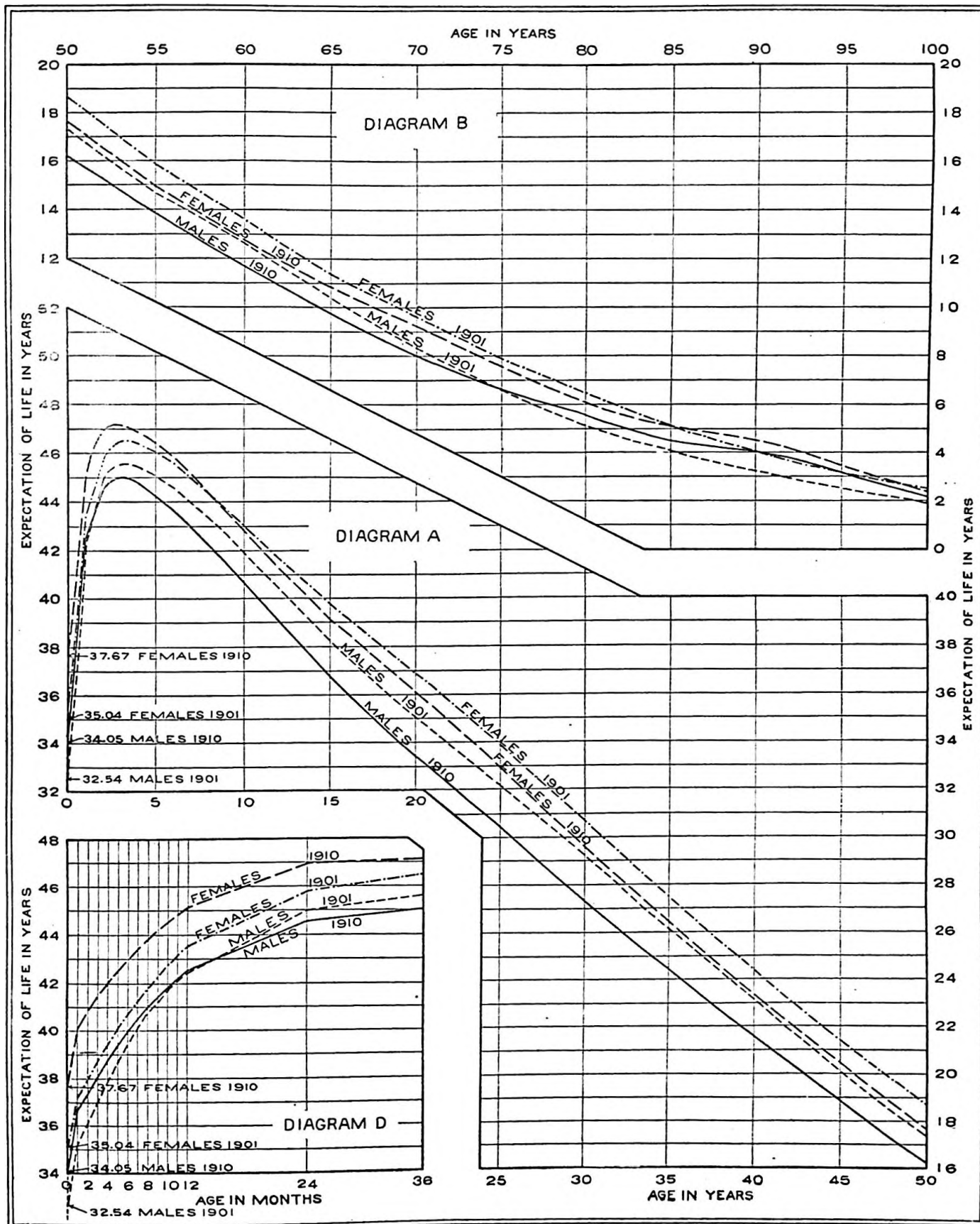
## COMPLETE EXPECTATION OF LIFE

NEGROES IN THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910

FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 5 on the following pages: 76, males, 1901; 80, males, 1910; 82, females, 1901; 86, females, 1910. See last question in section 50, page 38.



## UNITED STATES LIFE TABLES.

GRAPH 34

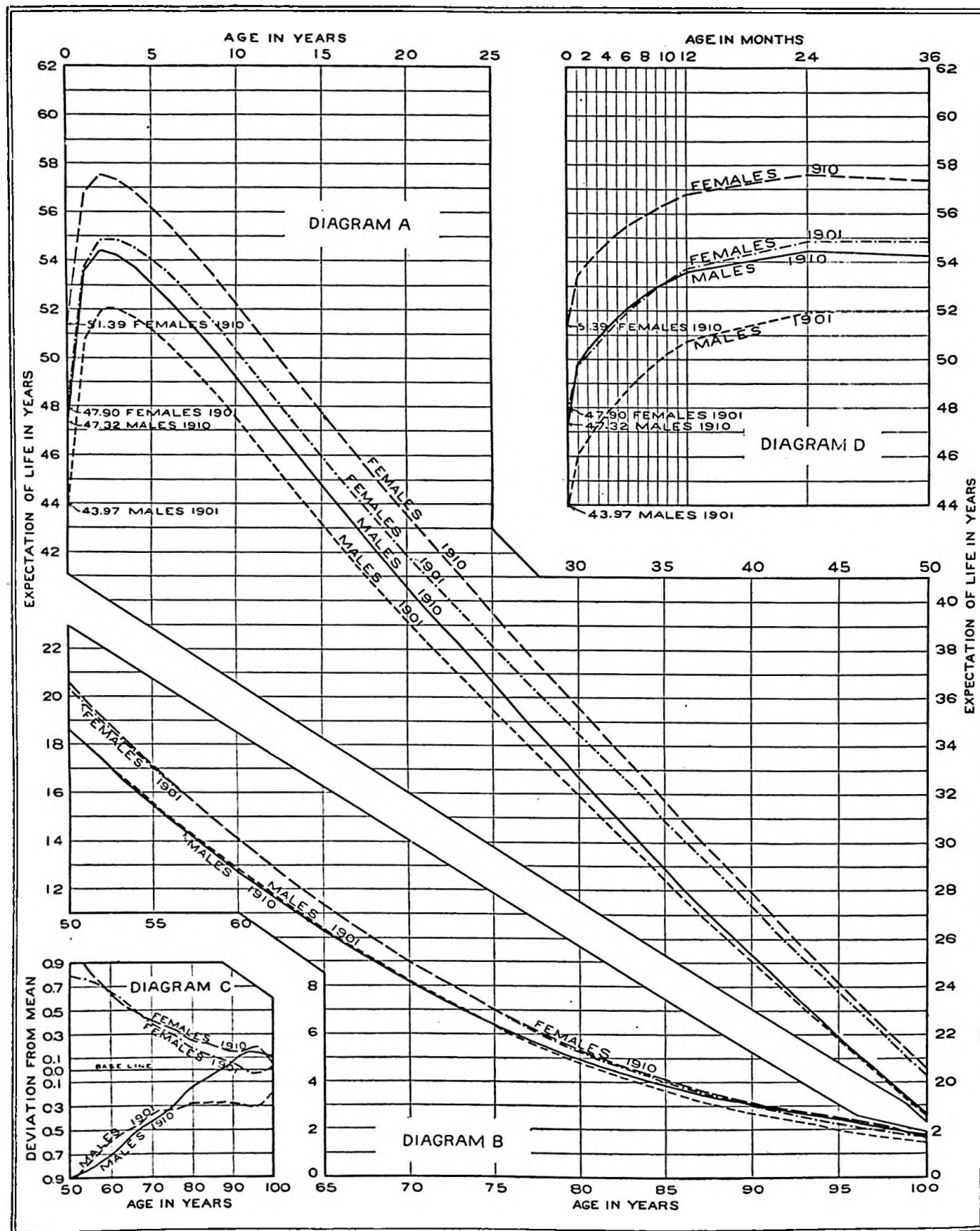
## COMPLETE EXPECTATION OF LIFE

MALES: 1901, 1910

WHITES IN CITIES OF THE ORIGINAL REGISTRATION STATES

FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 5 on the following pages: 104, males, 1901; 106, males, 1910; 108, females, 1901; 110, females, 1910. Values on the base line in Diagram C are the mean of the values of the curves represented.



GRAPH 35

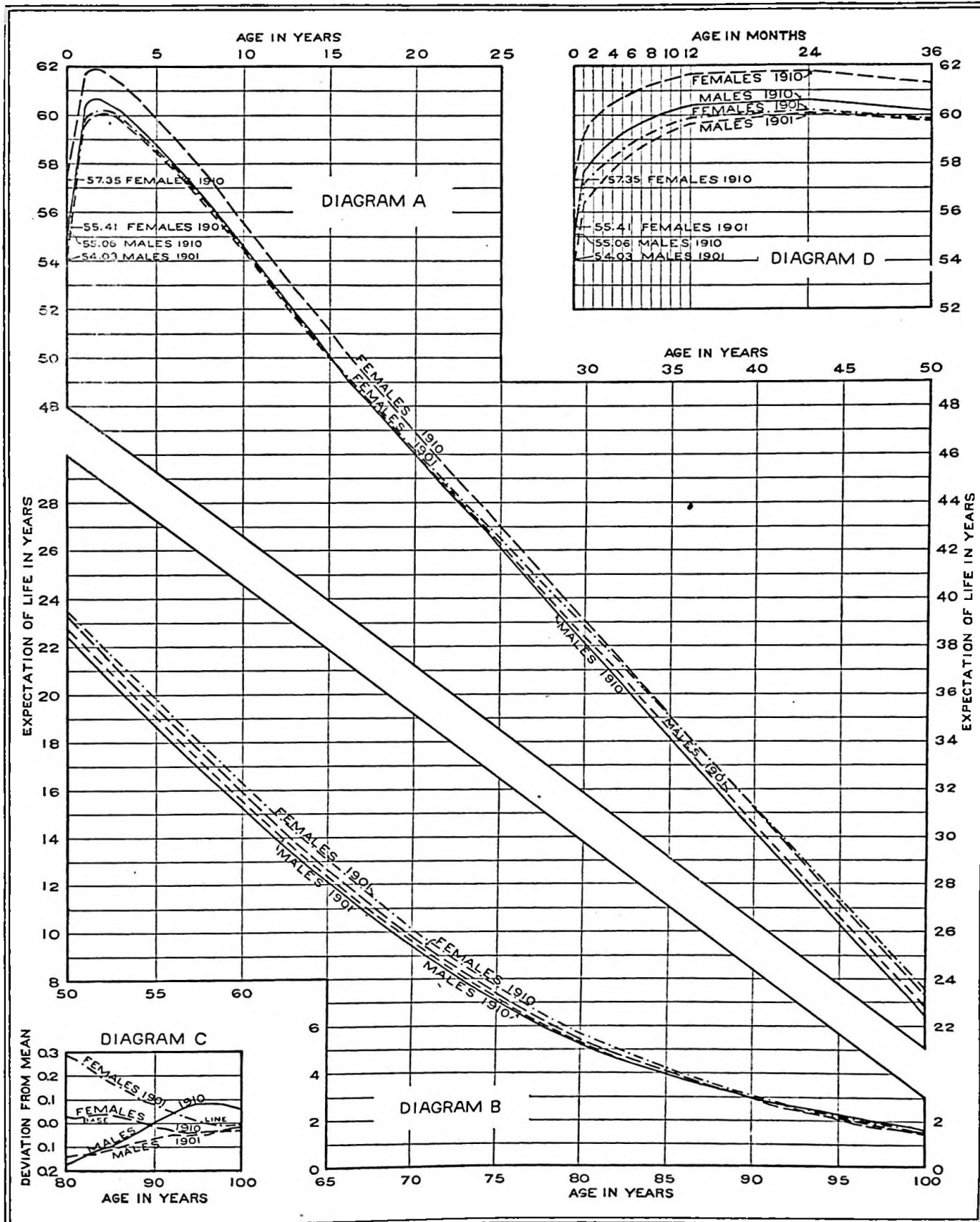
## COMPLETE EXPECTATION OF LIFE

WHITES IN RURAL PART OF THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910

FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 5 on the following pages: 112, males, 1901; 114, males, 1910; 116, females, 1901; 118, females, 1910. Values on the base line in Diagram C are the mean of the values of the curves represented.



## UNITED STATES LIFE TABLES.

GRAPH 36

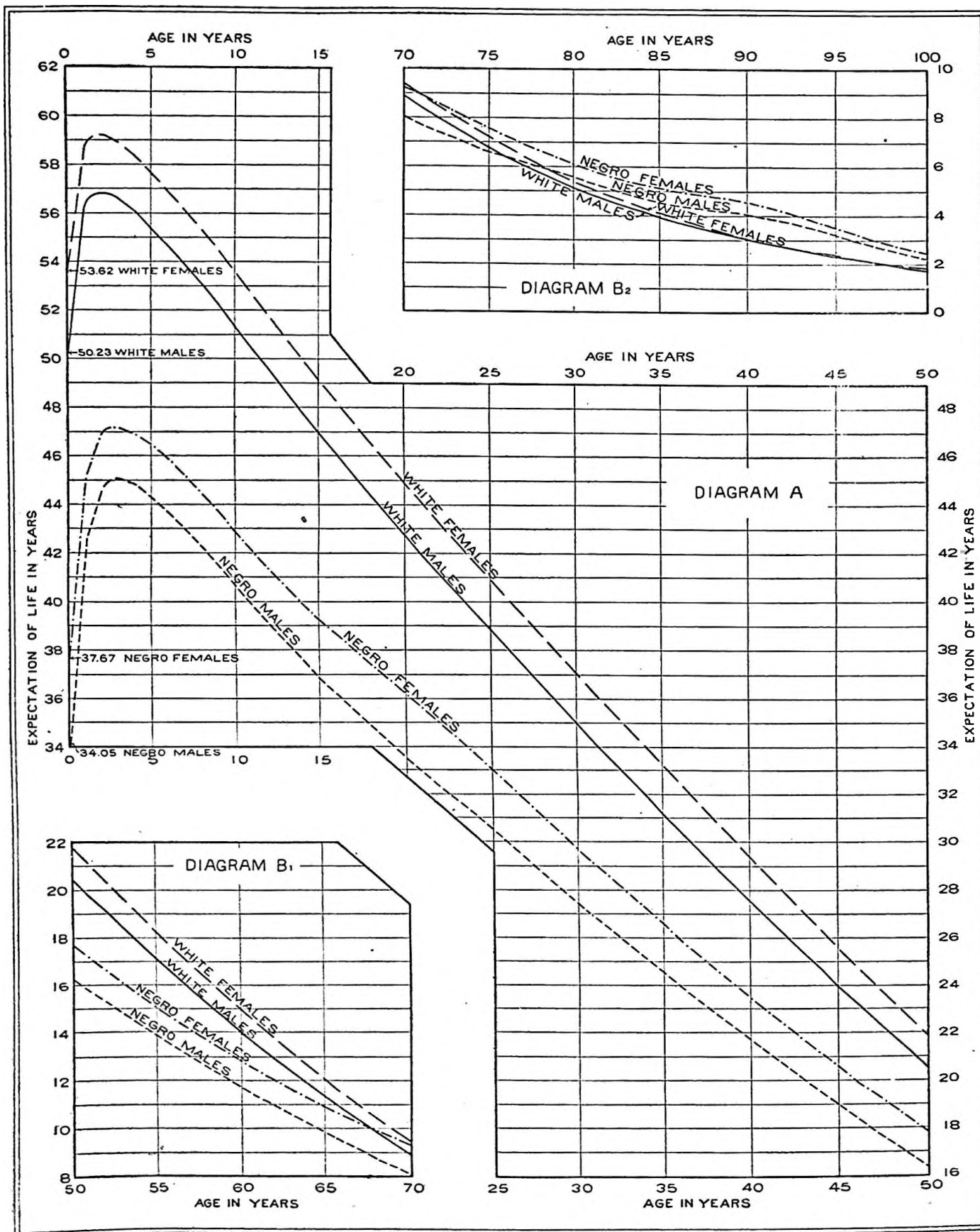
## COMPLETE EXPECTATION OF LIFE

MALES: 1910

WHITES AND NEGROES IN THE ORIGINAL REGISTRATION STATES

FEMALES: 1910

The values on which these graphs are based may be found in column 5 on the following pages: 68, white males; 74, white females; 80, Negro males; 86, Negro females. See second question in section 53, page 39.





GRAPH 37

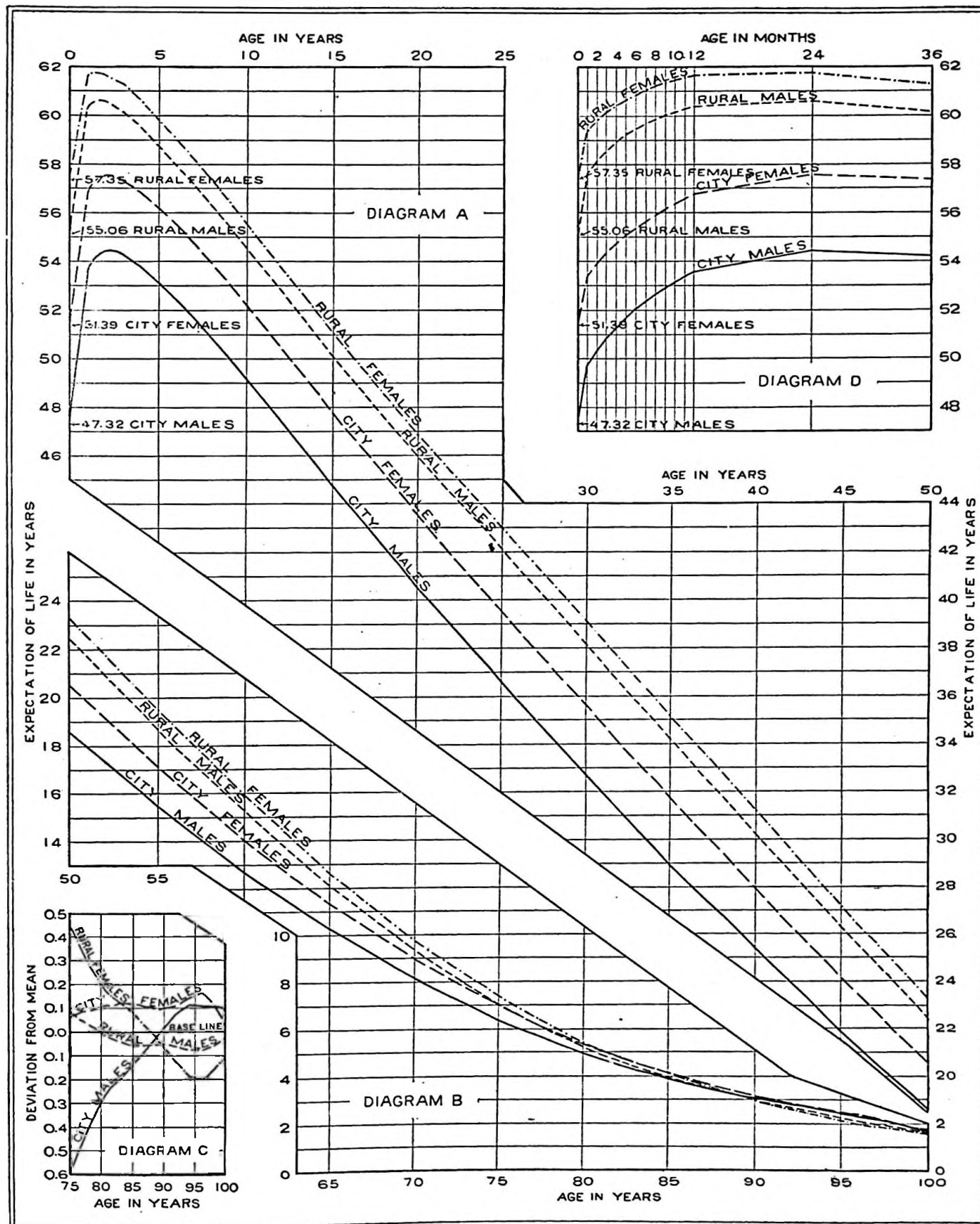
## COMPLETE EXPECTATION OF LIFE

WHITES IN CITIES AND IN RURAL PART OF THE ORIGINAL REGISTRATION STATES

MALES: 1910

FEMALES: 1910

The values on which these graphs are based may be found in column 5 on the following pages: 106, city males; 110, city females; 114, rural males; 118, rural females.  
Values on the base line in Diagram C are the mean of the values of the curves represented.



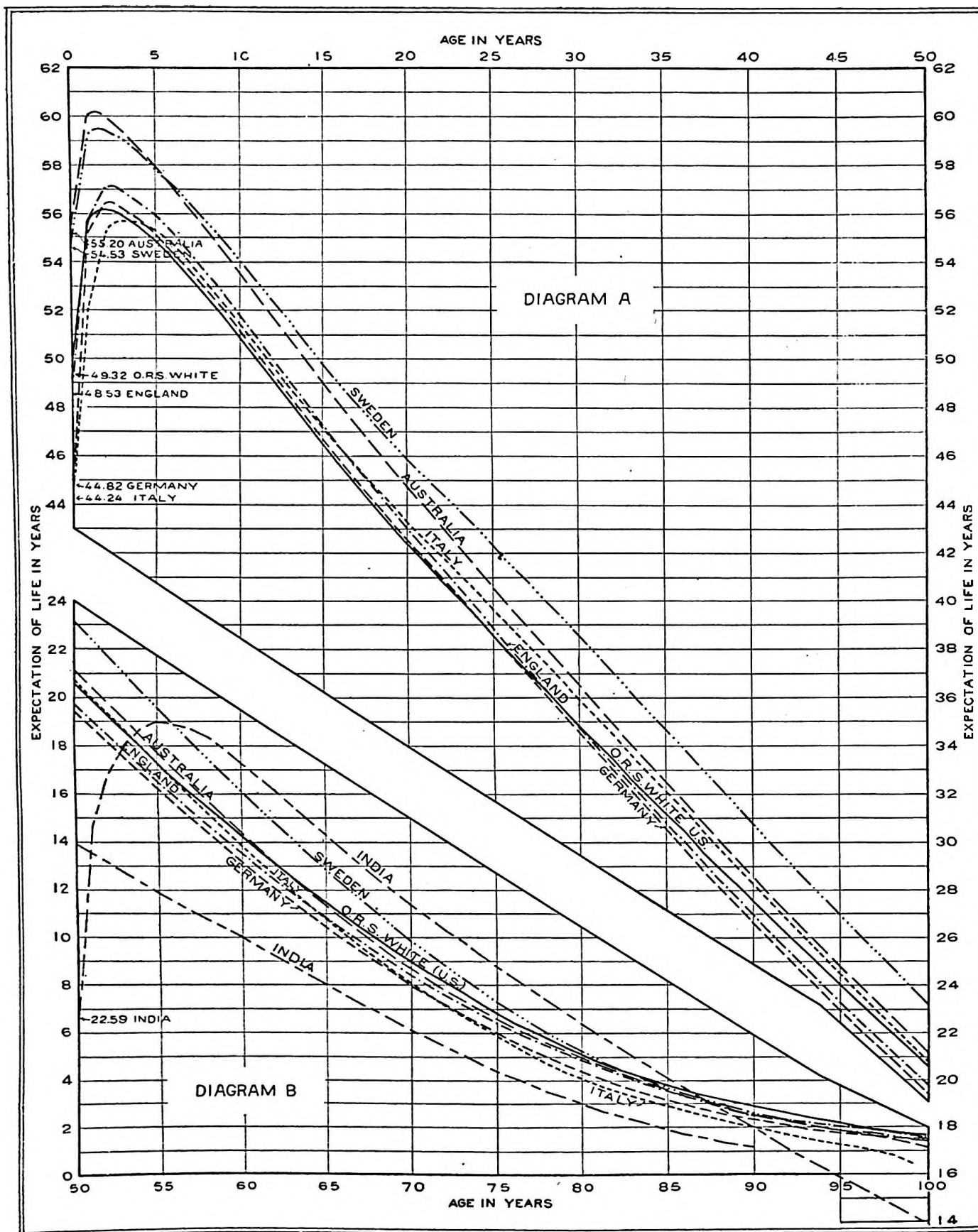
GRAPH 38

## COMPLETE EXPECTATION OF LIFE

AUSTRALIA, ENGLAND, GERMANY, INDIA, ITALY, SWEDEN, AND WHITES IN THE ORIGINAL REGISTRATION STATES

MALES: 1901-1910

The values on which these graphs are based may be found in columns 2, 4, 6, 8, 9, 12, and 14 of Table S1, page 216. See next to last question in section 50, page 38.





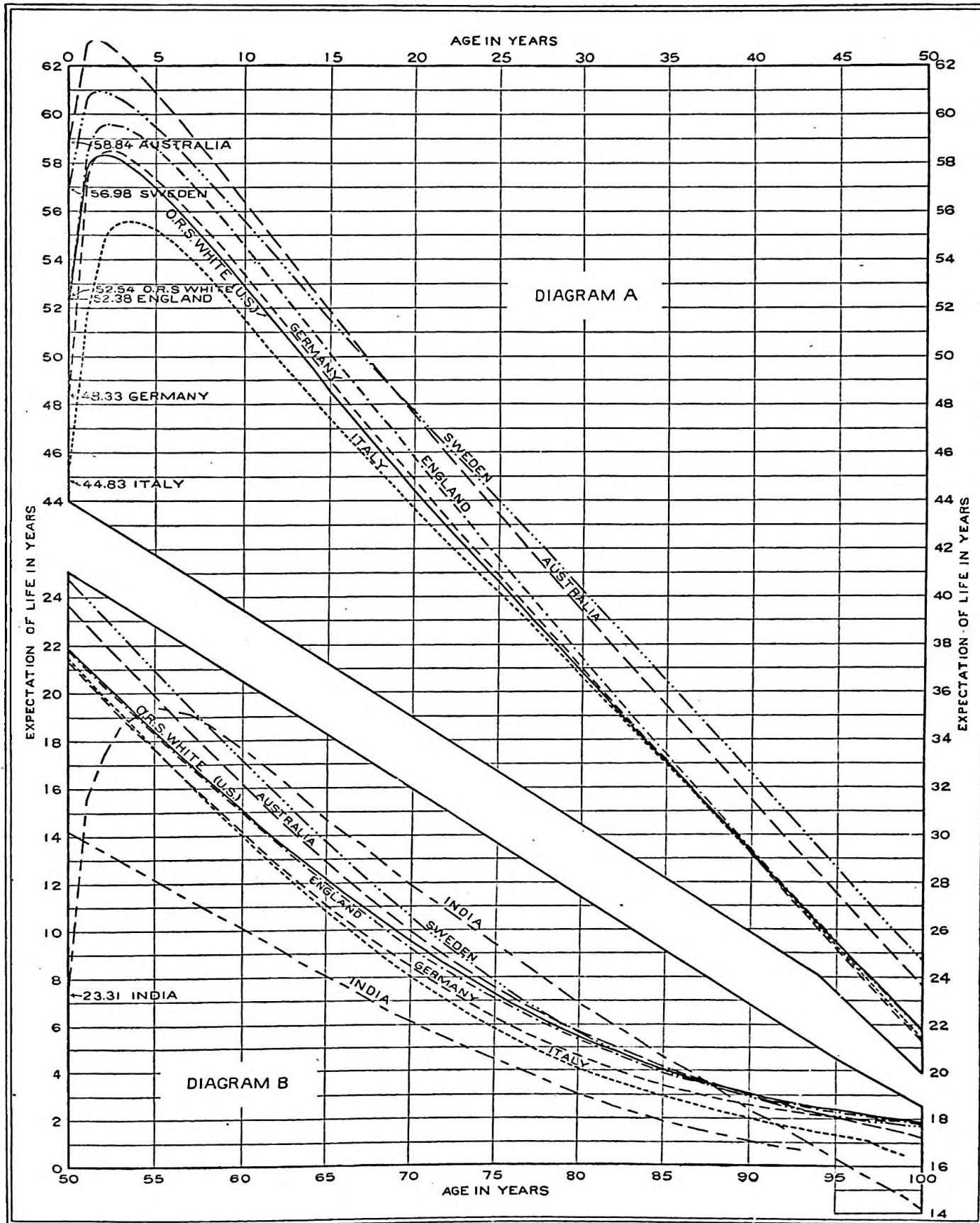
GRAPH 39

COMPLETE EXPECTATION OF LIFE

AUSTRALIA, ENGLAND, GERMANY, INDIA, ITALY, SWEDEN, AND WHITES IN THE ORIGINAL REGISTRATION STATES

FEMALES: 1901-1910

The values on which these graphs are based may be found in columns 2, 4, 6, 8, 9, 12, and 11 of Table 82, page 218. See next to last question in section 50, page 38.



GRAPH 40

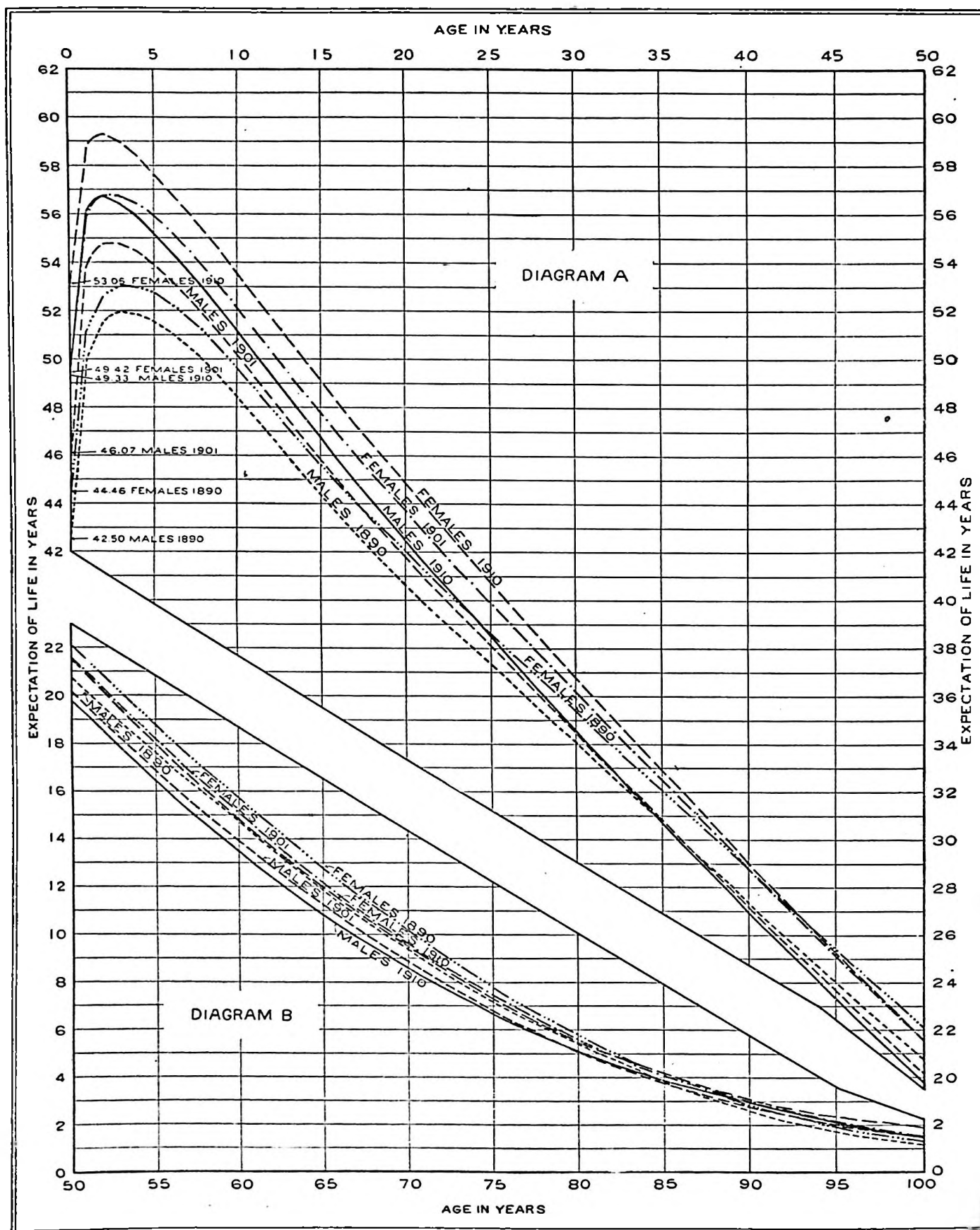
## COMPLETE EXPECTATION OF LIFE

MALES: 1890, 1901, 1910

STATE OF MASSACHUSETTS

FEMALES: 1890, 1901, 1910

The values on which these graphs are based may be found in column 5 on the following pages: 132, males, 1890; 131, males, 1901; 136, males, 1910; 138, females, 1890; 140, females, 1901; 142, females, 1910.

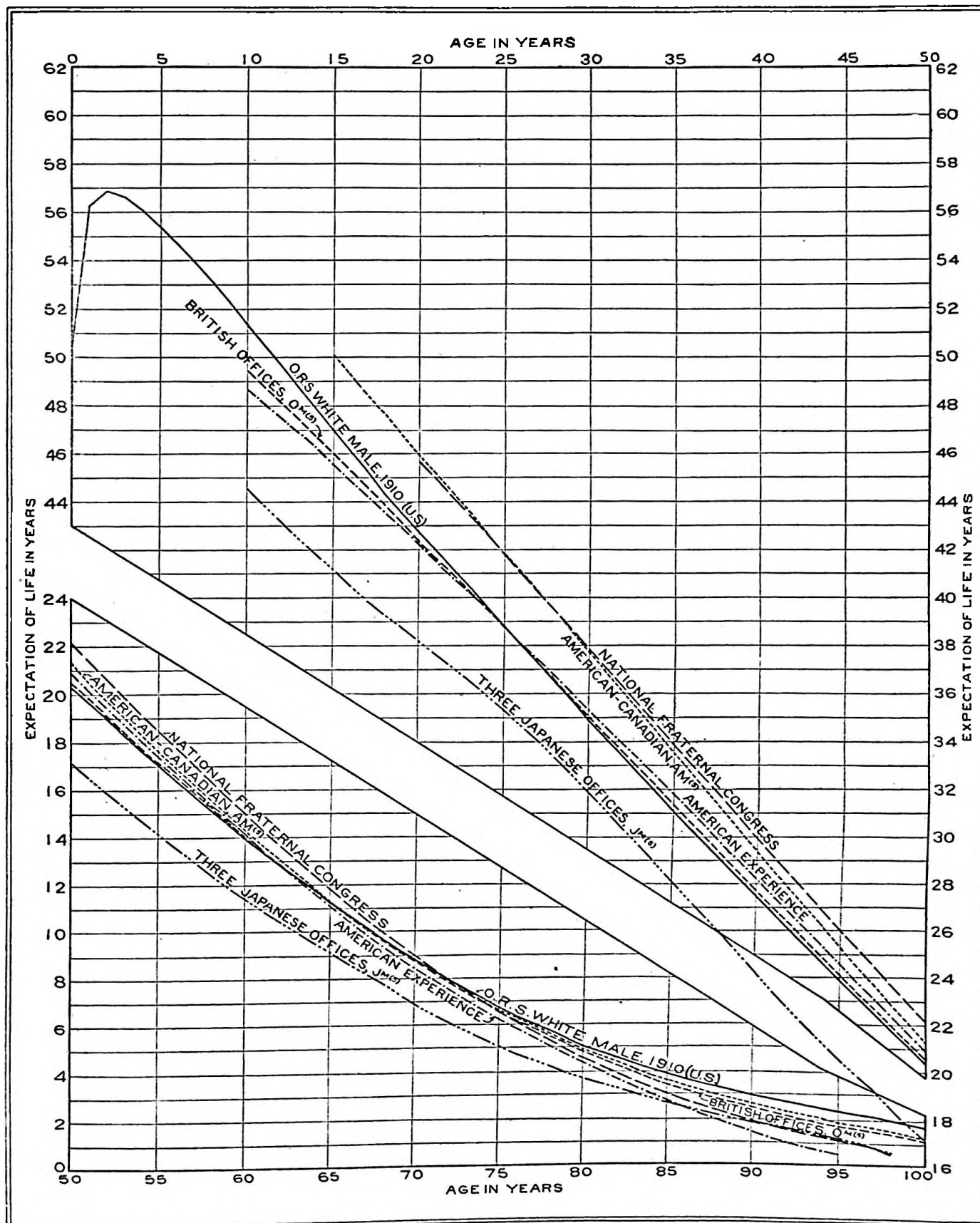


GRAPH 41

## COMPLETE EXPECTATION OF LIFE

AMERICAN EXPERIENCE MORTALITY TABLE: 1899  
 AMERICAN-CANADIAN MORTALITY INVESTIGATION: 1900-1915. AMERICAN MEN. AM(0)  
 BRITISH OFFICES LIFE TABLES: 1861-1893. MALES. OM(0)  
 THREE JAPANESE OFFICES LIFE TABLES: 1903. MALES. JM(0)  
 NATIONAL FRATERNAL CONGRESS MORTALITY TABLE: 1893  
 UNITED STATES. ORIGINAL REGISTRATION STATES: 1900-1911. WHITE MALES

The values on which these graphs are based may be found in columns 2, 4, 5, 8, 10, and 12 of Table 58, page 232.



## UNITED STATES LIFE TABLES.

GRAPH 42

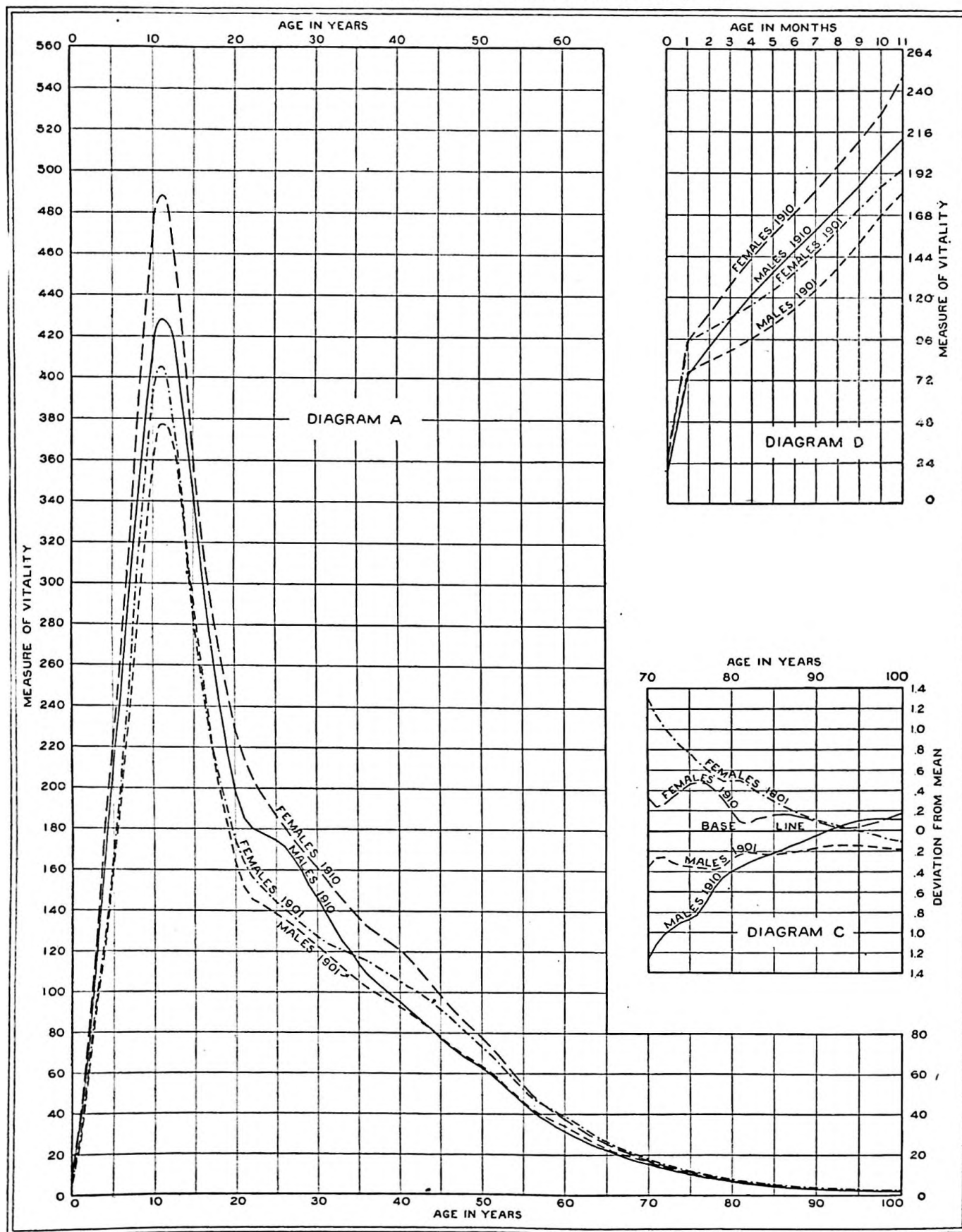
## MEASURE OF VITALITY

MALES: 1901, 1910

THE ORIGINAL REGISTRATION STATES

FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 7 on the following pages: 56, males, 1901; 58, males, 1910; 60, females, 1901; 62, females, 1910.  
 Values on the base line in Diagram C are the mean of the values of the curves represented.





GRAPH 43

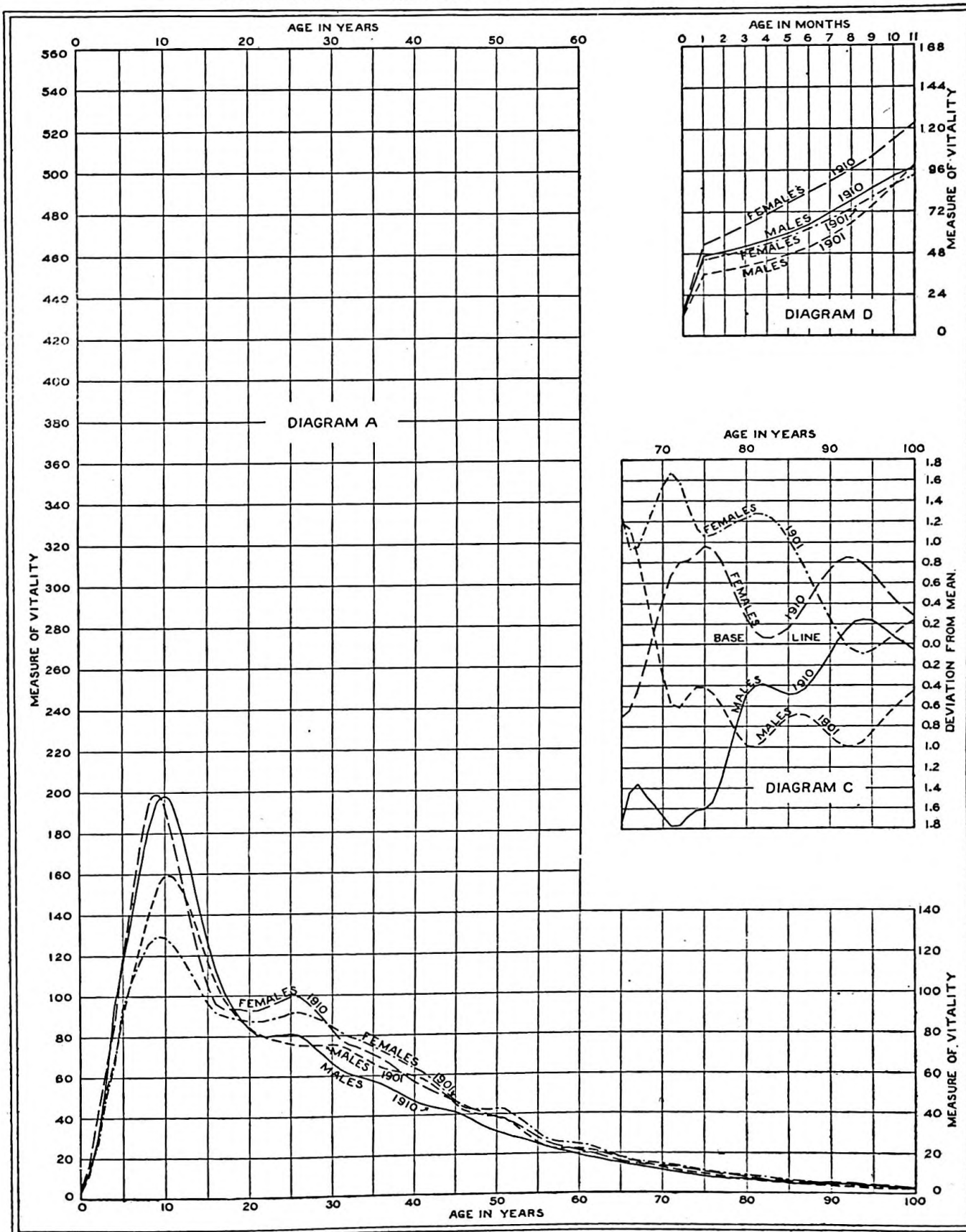
MEASURE OF VITALITY

NEGROES IN THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910

FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 7 on the following pages: 76, males, 1901; 80, males, 1910; 82, females, 1901; 86, females, 1910. Values on the base line in Diagram C are the mean of the values of the curves represented.



## UNITED STATES LIFE TABLES.

GRAPH 44

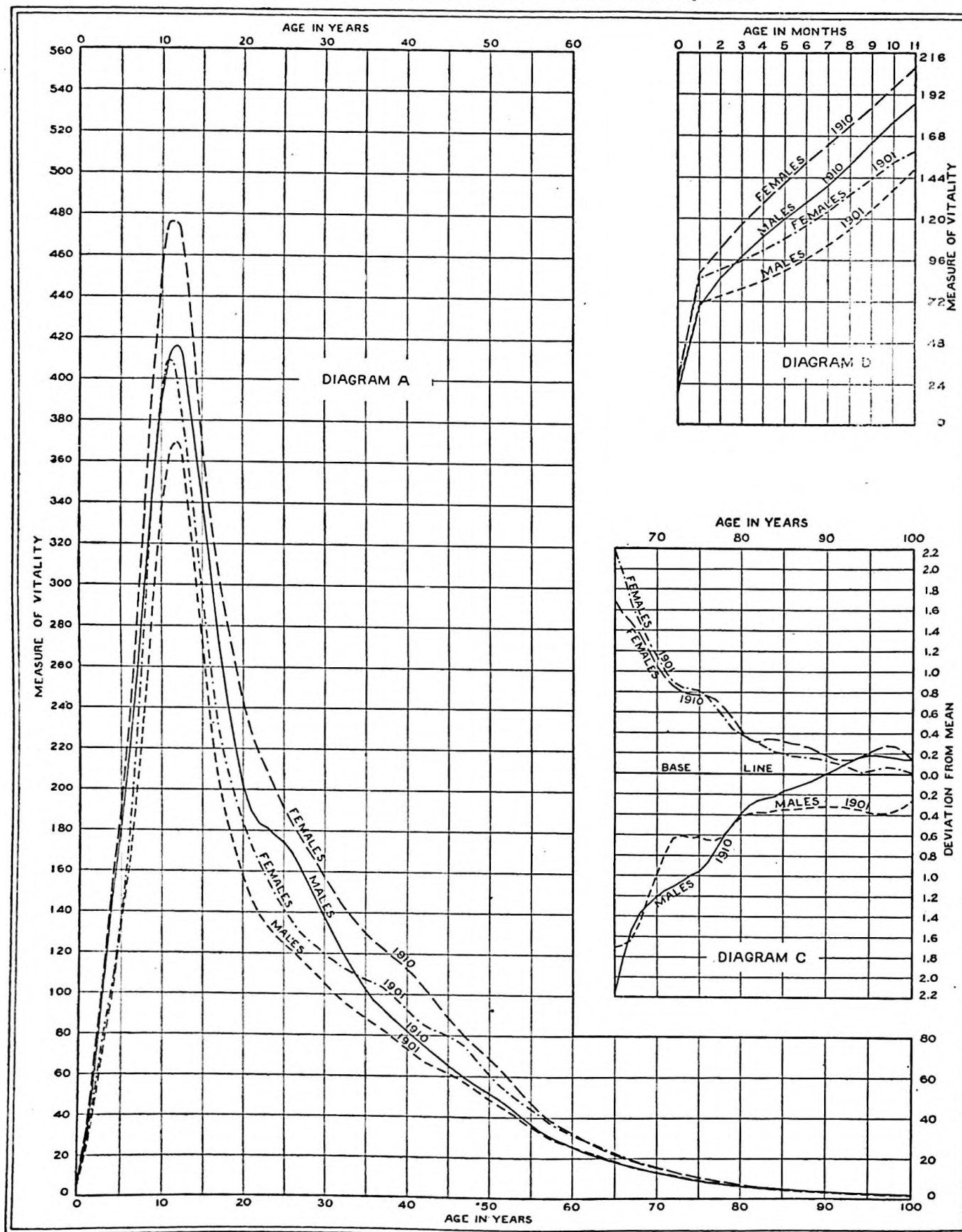
## MEASURE OF VITALITY

MALES: 1901, 1910

WHITES IN CITIES OF THE ORIGINAL REGISTRATION STATES

FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 7 on the following pages: 104, males, 1901; 106, males, 1910; 108, females, 1901; 110, females, 1910. Values on the base line in Diagram C are the mean of the values of the curves represented.





GRAPH 45

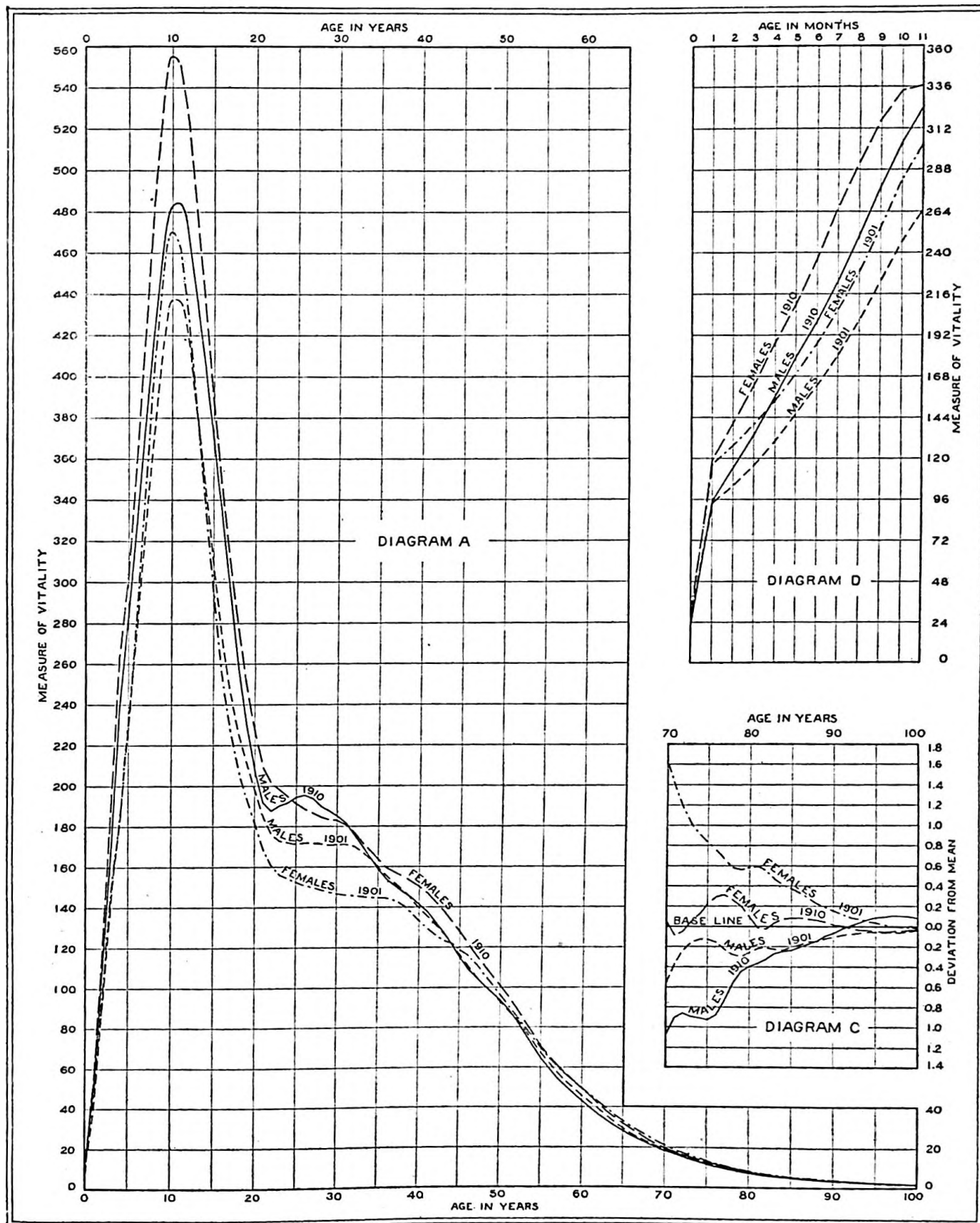
MEASURE OF VITALITY

WHITES IN RURAL PART OF THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910

FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 7 on the following pages: 112, males, 1901; 111, males, 1910; 116, females, 1901; 118, females, 1910. Values on the base line in Diagram C are the mean of the values of the curves represented.



GRAPH 46

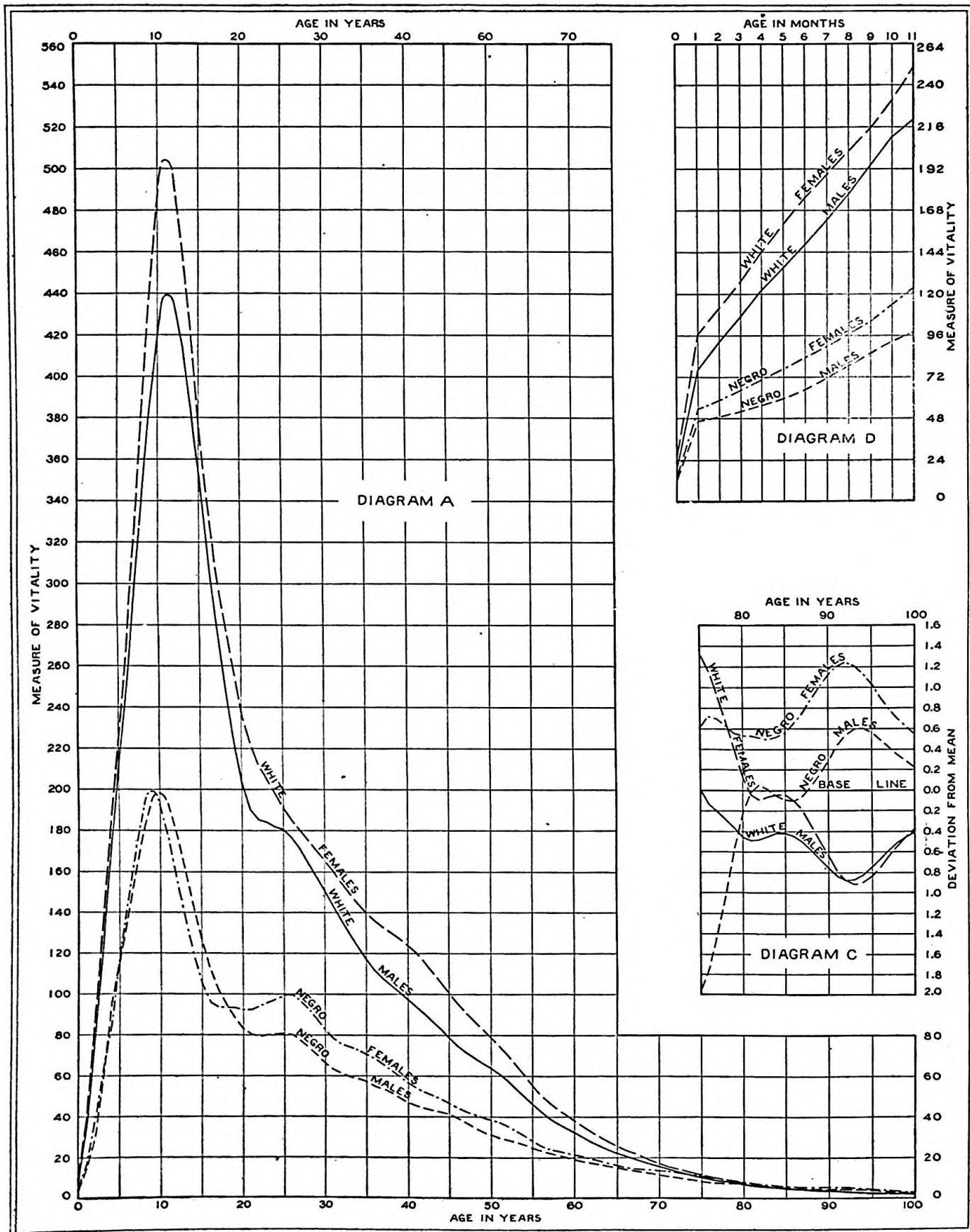
## MEASURE OF VITALITY

MALES: 1910

WHITES AND NEGROES IN THE ORIGINAL REGISTRATION STATES

FEMALES: 1910

The values on which these graphs are based may be found in column 7 on the following pages: 68, white males; 74, white females; 80, Negro males; 86, Negro females. Values on the base line in Diagram C are the mean of the values of the curves represented.



GRAPH 47

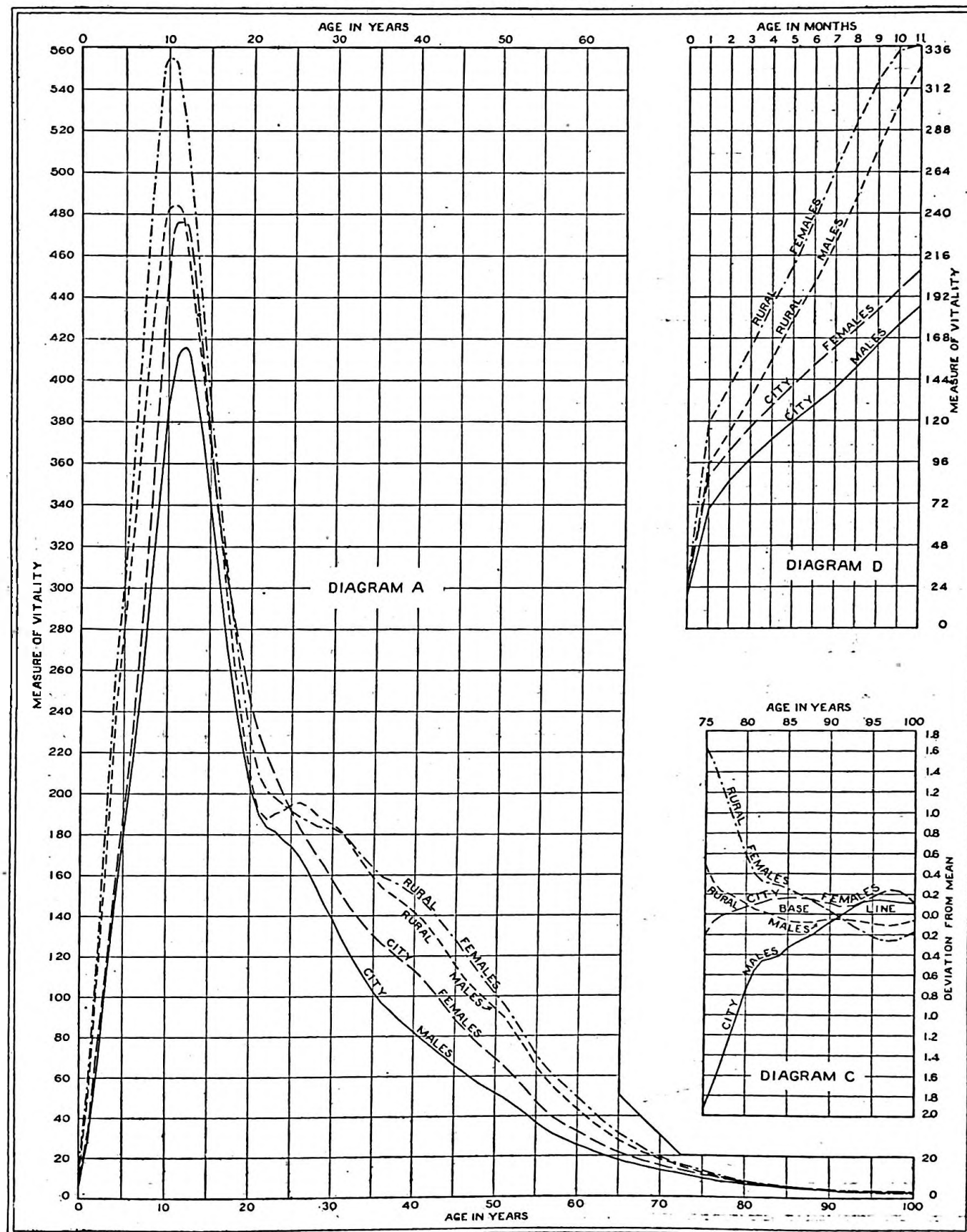
## MEASURE OF VITALITY

WHITES IN CITIES AND RURAL PART OF THE ORIGINAL REGISTRATION STATES

MALES: 1910

FEMALES: 1910

The values on which these graphs are based may be found in column 7 on the following pages: 106, city males; 110, city females; 114, rural males; 118, rural females.  
 Values on the base line in Diagram C are the mean of the values of the curves represented.



## UNITED STATES LIFE TABLES.

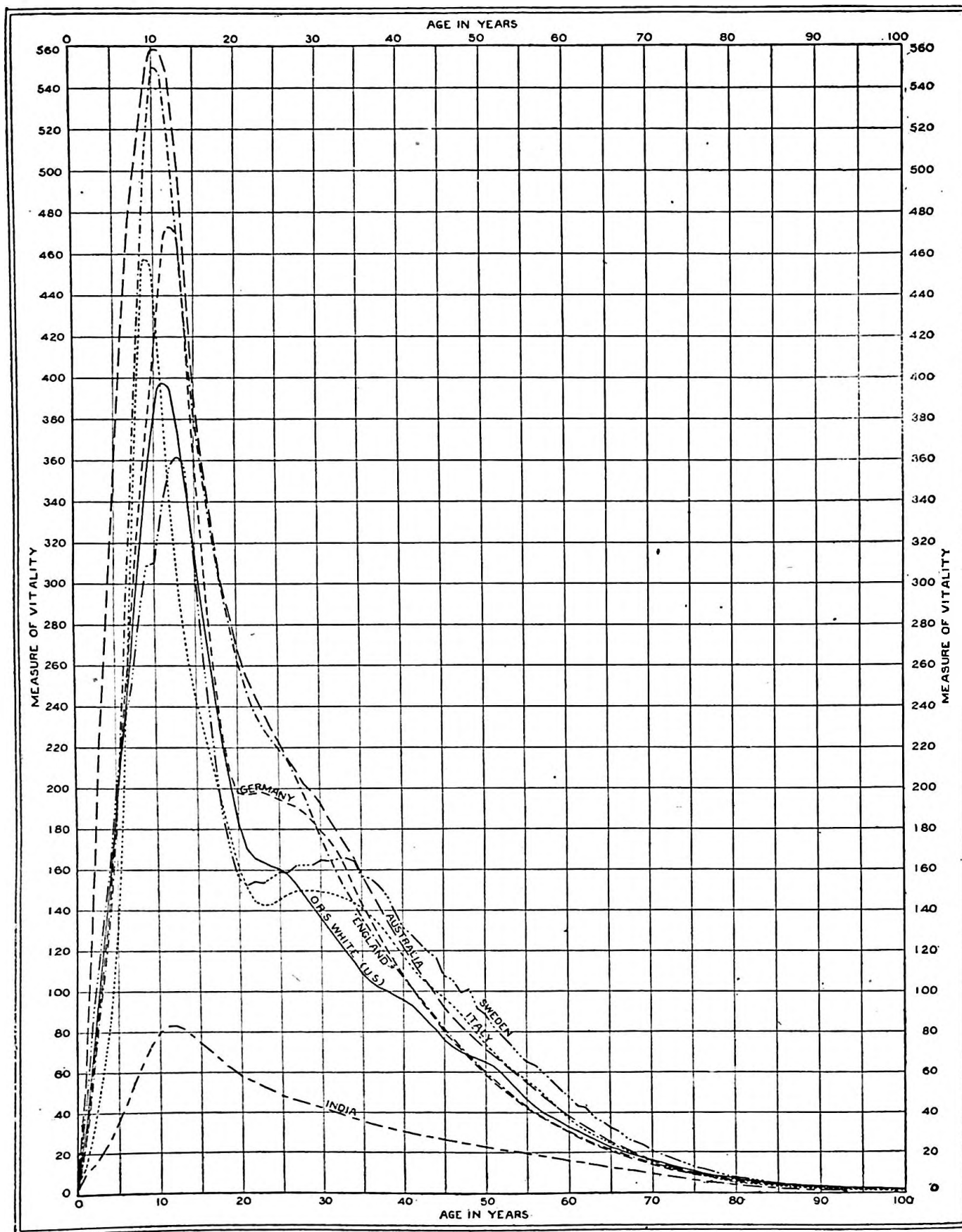
GRAPH 48

## MEASURE OF VITALITY

AUSTRALIA, ENGLAND, GERMANY, INDIA, ITALY, SWEDEN, AND WHITES IN THE ORIGINAL REGISTRATION STATES

MALES: 1901-1910

The values on which these graphs are based may be found in columns 2, 4, 6, 8, 9, 12, and 14 of Table 83, page 220.





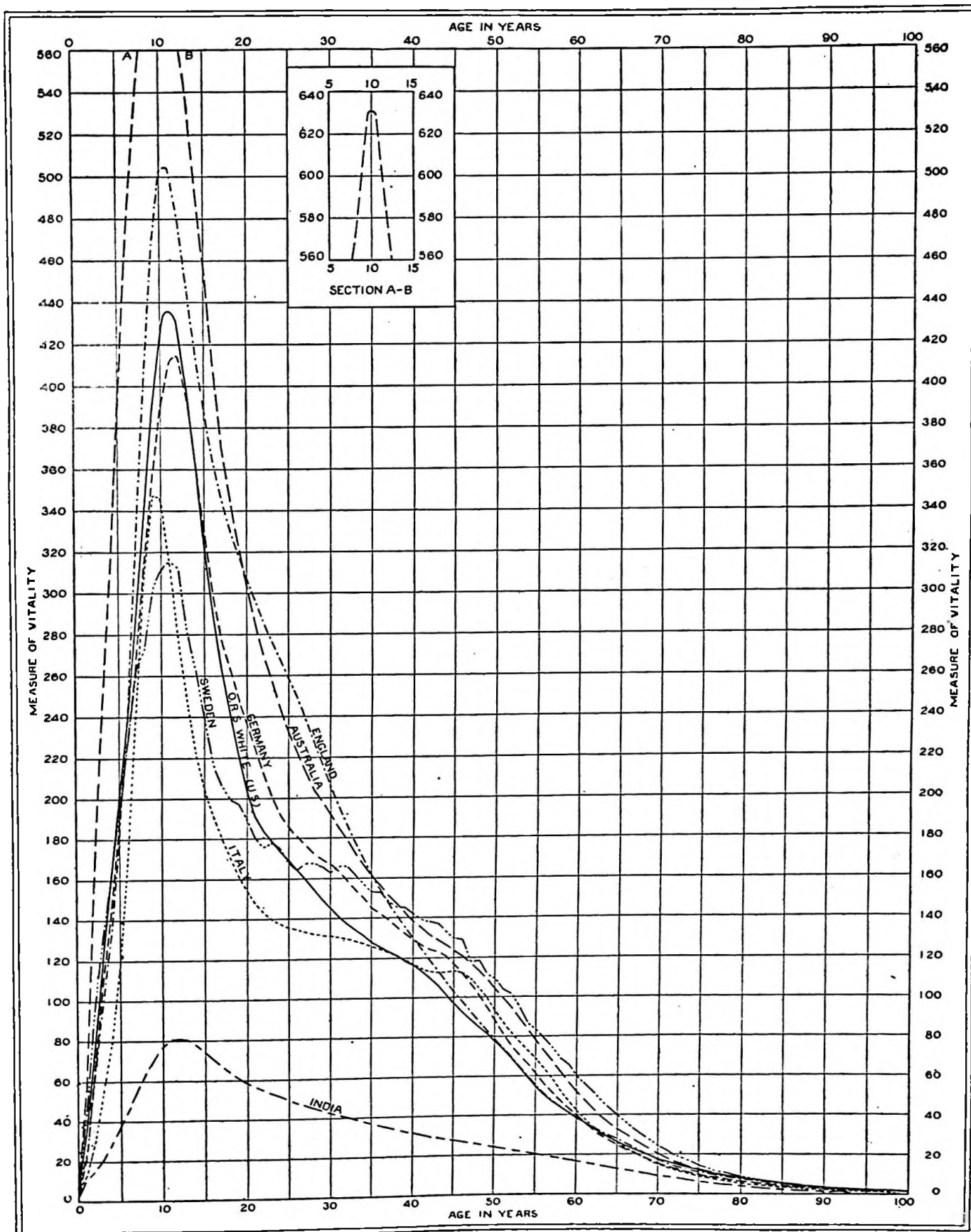
GRAPH 49

## MEASURE OF VITALITY

AUSTRALIA, ENGLAND, GERMANY, INDIA, ITALY, SWEDEN, AND WHITES IN THE ORIGINAL REGISTRATION STATES

FEMALES: 1901-1910

The values on which these graphs are based may be found in columns 2, 4, 6, 8, 9, 12, and 14 of Table 84, page 222.



GRAPH 50

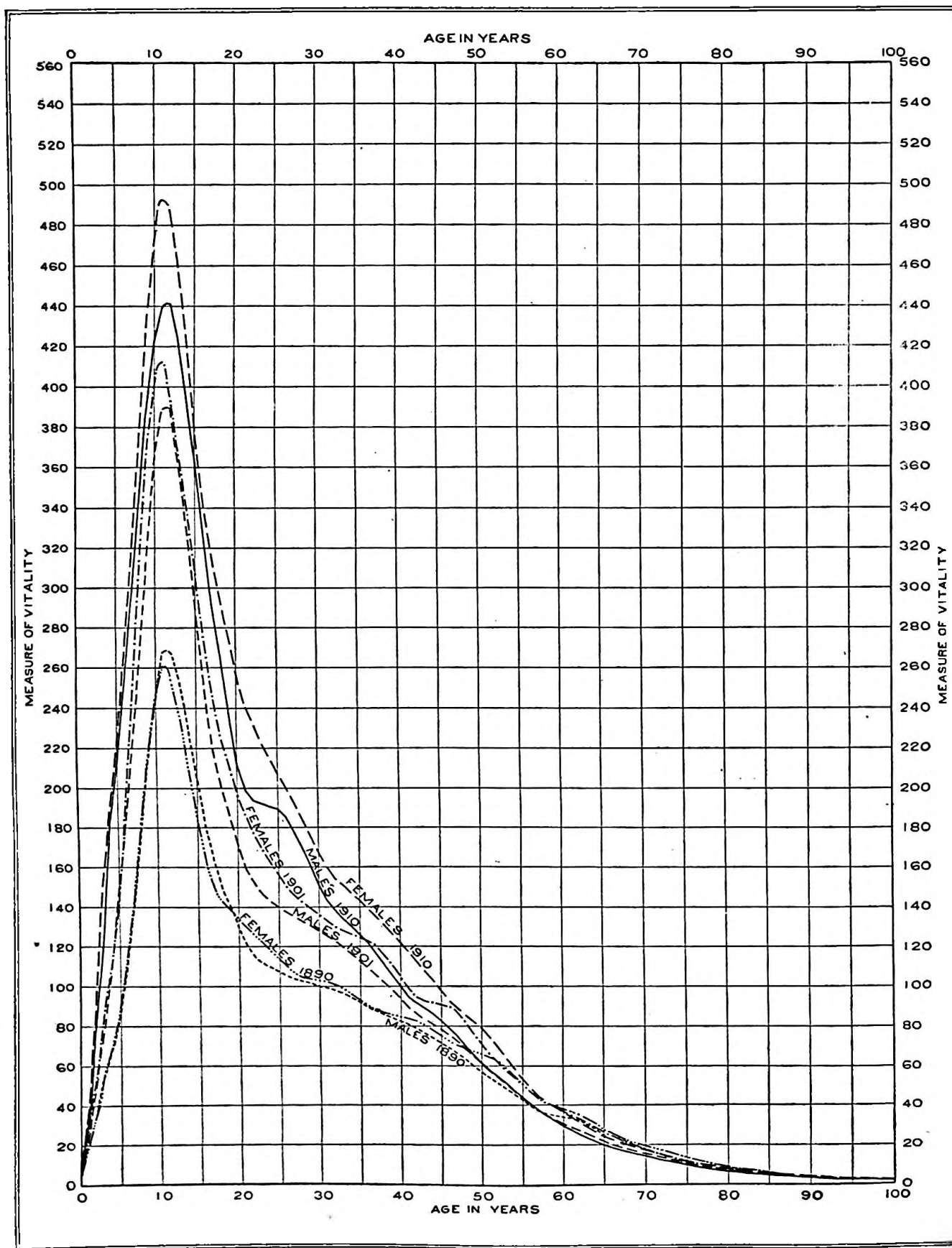
## MEASURE OF VITALITY

THE STATE OF MASSACHUSETTS

MALES: 1890, 1901, 1910

FEMALES: 1890, 1901, 1910

The values on which these graphs are based may be found in column 7 on the following pages: 132, males, 1890; 134, males, 1901; 136, males, 1910; 138, females, 1890; 140, females, 1901; 142, females, 1910.



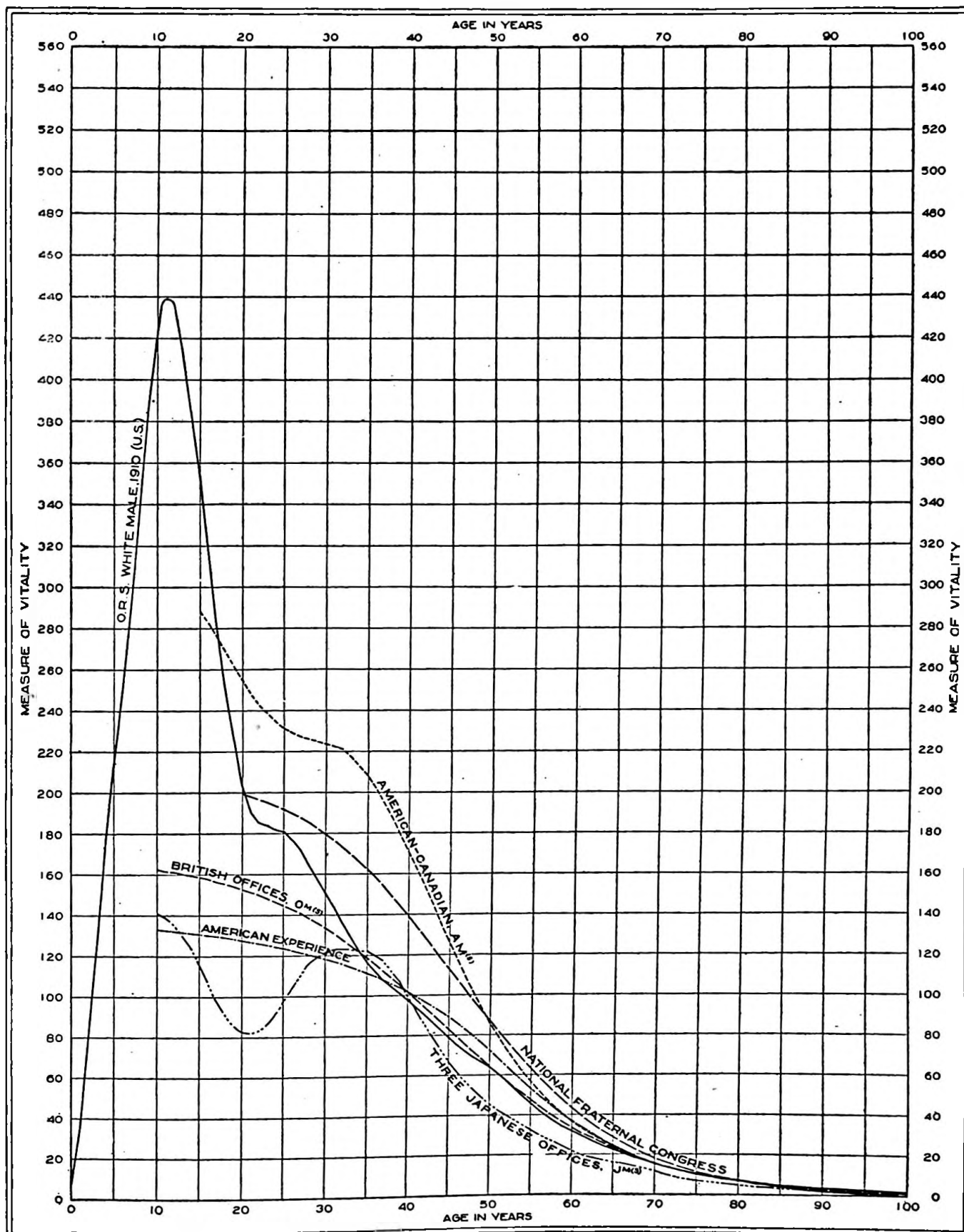


GRAPH 51

## MEASURE OF VITALITY

AMERICAN EXPERIENCE MORTALITY TABLE: 1890  
 AMERICAN-CANADIAN MORTALITY INVESTIGATION: 1900-1915. AMERICAN MEN. AM(9)  
 BRITISH OFFICES LIFE TABLES: 1867-1874. MALES. OM(9)  
 THREE JAPANESE OFFICES LIFE TABLES: 1901. MALES. JM(9)  
 NATIONAL FRATERNAL CONGRESS MORTALITY TABLE: 1898  
 UNITED STATES. ORIGINAL REGISTRATION STATES: 1909-1911. WHITE MALES

The values on which these graphs are based may be found in columns 2, 4, 5, 8, 10, and 12 of Table 89, page 234.





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## PART V

TABLES OF LIFE ANNUITIES, ANNUAL PREMIUMS, SINGLE PREMIUMS, AND  
COMMUTATION COLUMNS BASED ON LIFE TABLES FOR WHITE  
MALES AND FOR WHITE FEMALES IN THE ORIGINAL  
REGISTRATION STATES: 1910

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PART V.—TABLES OF LIFE ANNUITIES, ANNUAL PREMIUMS, SINGLE PREMIUMS,  
AND COMMUTATION COLUMNS BASED ON LIFE TABLES FOR WHITE MALES  
AND FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.

PRACTICAL USES SERVED BY THESE TABLES.

93. This part consists of tables of life annuities and other tables useful in connection with problems involving life contingencies. Values of life table functions based on the rates of mortality experienced among white men and women in this country are needed frequently in legal and business practice. For example, in the settlement of estates and division of wills, the present values of life annuities based on one or more lives of different ages and sexes are often required. The only way to obtain this information is to consult the available life or mortality tables. Until the appearance of the United States Life Tables there were practically no reliable life tables available which faithfully represented mortality conditions as they now exist in the general population. In lieu of such tables it has been the practice to employ the American Experience Mortality Table, the Northampton, the Carlisle, or some of the English Life Tables. Since these tables differ materially from the United States Life Tables for white males and white females, the values obtained by their use were correspondingly in error. A direct comparison of the rate of mortality, expectation of life, and other functions by these tables may be made with various other tables based on the experience of life insurance companies by referring to Tables 85 to 89 on pages 226 to 235.

In addition to the uses mentioned above, these tables may be employed in the valuation of pension funds and for other purposes in connection with the setting up of pension systems where the mortality is likely to be in accordance with that of the general population. They may also be used to measure the present value of income and the present value of charitable bequests based upon the lives of individuals. The application of the tables in the latter case in connection with deductions in computing the income tax is obvious.

It is sometimes necessary in legal practice, when determining the measure of damages, to have the present value at a given rate of interest of a life annuity to a male or female of a given age. For this purpose these tables will be found particularly useful because they extend down to the infant ages, which usually is not the case in tables based on insurance experience.

LIFE ANNUITIES, NET PREMIUMS, COMMUTATION COLUMNS,  
AT DIFFERENT RATES OF INTEREST.

94. To meet the increasing need for accurate values of mortality functions based on the experience of the general population in this country, tables of this character are given in Part V. Two life tables were chosen for this purpose, one for white males in the original registration states, 1910, pages 68 and 69, and the other for white females in the original registration states, 1910, pages 74 and 75. Each of these tables is based on a population of about twelve millions and reported deaths of over half a million in the original registration states; they should, therefore, portray with great faithfulness the rates of mortality as they now exist among white males and white females in this country.

It is upon these life tables that the tabulated life annuities, net premiums, and commutation columns are based. They are divided into two sets, those for males in Tables 92 to 98, pages 298 to 311, and those for females in Tables 99 to 105, pages 312 to 325.

The values of the life annuities are given for each age at rates of interest 3,  $3\frac{1}{2}$ , 4, 5, and 6 per cent. The tabulated annuities give the present value of \$1 per year throughout life, the first payment to be made at once. An annuity of this character is called a life annuity due. The method of using these annuities is explained in section 83 in the Questions and Answers of Part I of this text, pages 47 and 48.

The tables of annuities are followed by tables of net single and net annual premiums per \$1,000 of ordinary whole life insurance at 3,  $3\frac{1}{2}$ , and 4 per cent.

To facilitate actuarial calculations, commutation columns are given at 3,  $3\frac{1}{2}$ , 4, 5, and 6 per cent. These columns include values of the six functions  $D_x$ ,  $N_x$ ,  $S_x$ ,  $C_x$ ,  $M_x$ ,  $R_x$ . They make it possible for the actuary to calculate all the values on single lives which would be required in practice.

The values given in this part are on one life. If values based on two or more lives are required, there is sufficient information contained in the tables to enable the actuary to make the necessary calculations. It would, of course, be desirable to have the life tables graduated to Makeham's formula, and thus facilitate the calculation of values on multiple lives; it has not been found feasible, however, to present such tables at this time.

TABLE 92

## LIFE ANNUITY DUE.

## WHITE MALES

PRESENT VALUE, AT EACH AGE AND VARIOUS RATES OF INTEREST, OF A LIFE ANNUITY OF ONE DOLLAR PER ANNUM, FIRST PAYMENT TO BE MADE AT ONCE, BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.   | LIFE ANNUITY DUE. |         |         |         |         | WHITE MALES. |
|--------|-------------------|---------|---------|---------|---------|--------------|
| $x$    | $a_x = N_x/D_x$   |         |         |         |         |              |
| Years. | 3%                | 3½%     | 4%      | 5%      | 6%      |              |
| 0      | 23.0056           | 20.8292 | 18.9969 | 16.1086 | 13.9600 |              |
| 1      | 25.8523           | 23.4086 | 21.3481 | 18.0943 | 15.6690 |              |
| 2      | 26.3408           | 23.8661 | 21.7763 | 18.4700 | 16.0004 |              |
| 3      | 26.4374           | 23.9714 | 21.8858 | 18.5799 | 16.1054 |              |
| 4      | 26.4103           | 23.9657 | 21.8951 | 18.6066 | 16.1399 |              |
| 5      | 26.3231           | 23.9062 | 21.8558 | 18.5933 | 16.1405 |              |
| 6      | 26.2062           | 23.8201 | 21.7928 | 18.5604 | 16.1249 |              |
| 7      | 26.0666           | 23.7136 | 21.7112 | 18.5124 | 16.0967 |              |
| 8      | 25.9068           | 23.5889 | 21.6133 | 18.4508 | 16.0572 |              |
| 9      | 25.7293           | 23.4481 | 21.5008 | 18.3772 | 16.0075 |              |
| 10     | 25.5374           | 23.2943 | 21.3762 | 18.2935 | 15.9493 |              |
| 11     | 25.3339           | 23.1296 | 21.2418 | 18.2015 | 15.8841 |              |
| 12     | 25.1210           | 22.9564 | 21.0995 | 18.1027 | 15.8131 |              |
| 13     | 24.9017           | 22.7770 | 20.9515 | 17.9991 | 15.7380 |              |
| 14     | 24.6782           | 22.5937 | 20.7997 | 17.8922 | 15.6600 |              |
| 15     | 24.4522           | 22.4077 | 20.6453 | 17.7830 | 15.5801 |              |
| 16     | 24.2243           | 22.2199 | 20.4892 | 17.6722 | 15.4988 |              |
| 17     | 23.9966           | 22.0320 | 20.3328 | 17.5611 | 15.4173 |              |
| 18     | 23.7705           | 21.8453 | 20.1774 | 17.4508 | 15.3365 |              |
| 19     | 23.5475           | 21.6612 | 20.0243 | 17.3425 | 15.2575 |              |
| 20     | 23.3270           | 21.4792 | 19.8731 | 17.2358 | 15.1800 |              |
| 21     | 23.1098           | 21.3002 | 19.7245 | 17.1313 | 15.1047 |              |
| 22     | 22.8932           | 21.1215 | 19.5761 | 17.0272 | 15.0298 |              |
| 23     | 22.6722           | 20.9386 | 19.4238 | 16.9198 | 14.9522 |              |
| 24     | 22.4439           | 20.7488 | 19.2652 | 16.8068 | 14.8699 |              |
| 25     | 22.2091           | 20.5528 | 19.1006 | 16.6887 | 14.7831 |              |
| 26     | 21.9668           | 20.3497 | 18.9292 | 16.5647 | 14.6914 |              |
| 27     | 21.7183           | 20.1405 | 18.7521 | 16.4356 | 14.5951 |              |
| 28     | 21.4646           | 19.9262 | 18.5702 | 16.3022 | 14.4951 |              |
| 29     | 21.2073           | 19.7083 | 18.3847 | 16.1655 | 14.3922 |              |
| 30     | 20.9460           | 19.4863 | 18.1951 | 16.0251 | 14.2861 |              |
| 31     | 20.6809           | 19.2605 | 18.0018 | 15.8812 | 14.1769 |              |
| 32     | 20.4128           | 19.0316 | 17.8052 | 15.7343 | 14.0650 |              |
| 33     | 20.1426           | 18.8002 | 17.6062 | 15.5850 | 13.9509 |              |
| 34     | 19.8698           | 18.5661 | 17.4045 | 15.4331 | 13.8345 |              |
| 35     | 19.5947           | 18.3295 | 17.2000 | 15.2785 | 13.7157 |              |
| 36     | 19.3170           | 18.0900 | 16.9927 | 15.1212 | 13.5944 |              |
| 37     | 19.0359           | 17.8470 | 16.7817 | 14.9604 | 13.4699 |              |
| 38     | 18.7500           | 17.5990 | 16.5659 | 14.7949 | 13.3412 |              |
| 39     | 18.4586           | 17.3455 | 16.3445 | 14.6243 | 13.2077 |              |
| 40     | 18.1616           | 17.0862 | 16.1173 | 14.4480 | 13.0691 |              |
| 41     | 17.8590           | 16.8212 | 15.8844 | 14.2663 | 12.9255 |              |
| 42     | 17.5508           | 16.5503 | 15.6455 | 14.0788 | 12.7764 |              |
| 43     | 17.2375           | 16.2742 | 15.4013 | 13.8859 | 12.6222 |              |
| 44     | 16.9198           | 15.9932 | 15.1521 | 13.6881 | 12.4633 |              |
| 45     | 16.5973           | 15.7072 | 14.8977 | 13.4850 | 12.2993 |              |
| 46     | 16.2709           | 15.4168 | 14.6386 | 13.2770 | 12.1305 |              |
| 47     | 15.9402           | 15.1218 | 14.3746 | 13.0640 | 11.9568 |              |
| 48     | 15.6042           | 14.8209 | 14.1046 | 12.8447 | 11.7770 |              |
| 49     | 15.2618           | 14.5135 | 13.8277 | 12.6185 | 11.5904 |              |
| 50     | 14.9127           | 14.1987 | 13.5433 | 12.3846 | 11.3962 |              |
| 51     | 14.5560           | 13.8761 | 13.2508 | 12.1424 | 11.1938 |              |
| 52     | 14.1932           | 13.5467 | 12.9511 | 11.8926 | 10.9838 |              |
| 53     | 13.8268           | 13.2132 | 12.6467 | 11.6374 | 10.7680 |              |
| 54     | 13.4601           | 12.8783 | 12.3403 | 11.3793 | 10.5488 |              |

<sup>1</sup> This table appears on pages 68 and 69.



TABLE 92

## LIFE ANNUITY DUE.

WHITE MALES

PRESENT VALUE, AT EACH AGE AND VARIOUS RATES OF INTEREST, OF A LIFE ANNUITY OF ONE DOLLAR PER ANNUM, FIRST PAYMENT TO BE MADE AT ONCE, BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.            | LIFE ANNUITY DUE. |         |         |         |         | WHITE MALES. |
|-----------------|-------------------|---------|---------|---------|---------|--------------|
| $a_x = N_x/D_x$ | 3%                | 3½%     | 4%      | 5%      | 6%      |              |
| $x$             |                   |         |         |         |         |              |
| Years.          |                   |         |         |         |         |              |
| 55              | 13.0937           | 12.5429 | 12.0327 | 11.1189 | 10.3266 |              |
| 56              | 12.7302           | 12.2095 | 11.7261 | 10.8583 | 10.1035 |              |
| 57              | 12.3703           | 11.8786 | 11.4213 | 10.5981 | 9.8798  |              |
| 58              | 12.0127           | 11.5489 | 11.1169 | 10.3373 | 9.6547  |              |
| 59              | 11.6557           | 11.2190 | 10.8115 | 10.0743 | 9.4269  |              |
| 60              | 11.2997           | 10.8893 | 10.5056 | 9.8097  | 9.1965  |              |
| 61              | 10.9452           | 10.5601 | 10.1994 | 9.5436  | 8.9639  |              |
| 62              | 10.5927           | 10.2319 | 9.8935  | 9.2765  | 8.7294  |              |
| 63              | 10.2430           | 9.9056  | 9.5886  | 9.0092  | 8.4938  |              |
| 64              | 9.8973            | 9.5823  | 9.2858  | 8.7426  | 8.2580  |              |
| 65              | 9.5549            | 9.2614  | 8.9846  | 8.4763  | 8.0214  |              |
| 66              | 9.2150            | 8.9420  | 8.6842  | 8.2096  | 7.7835  |              |
| 67              | 8.8777            | 8.6244  | 8.3847  | 7.9424  | 7.5442  |              |
| 68              | 8.5430            | 8.3084  | 8.0861  | 7.6749  | 7.3036  |              |
| 69              | 8.2120            | 7.9953  | 7.7895  | 7.4081  | 7.0626  |              |
| 70              | 7.8848            | 7.6849  | 7.4949  | 7.1419  | 6.8212  |              |
| 71              | 7.5611            | 7.3773  | 7.2022  | 6.8763  | 6.5793  |              |
| 72              | 7.2425            | 7.0737  | 6.9128  | 6.6124  | 6.3380  |              |
| 73              | 6.9309            | 6.7763  | 6.6286  | 6.3524  | 6.0993  |              |
| 74              | 6.6280            | 6.4866  | 6.3512  | 6.0977  | 5.8647  |              |
| 75              | 6.3353            | 6.2061  | 6.0822  | 5.8497  | 5.6356  |              |
| 76              | 6.0557            | 5.9376  | 5.8244  | 5.6114  | 5.4146  |              |
| 77              | 5.7883            | 5.6806  | 5.5771  | 5.3821  | 5.2016  |              |
| 78              | 5.5294            | 5.4312  | 5.3368  | 5.1586  | 4.9932  |              |
| 79              | 5.2766            | 5.1873  | 5.1013  | 4.9387  | 4.7874  |              |
| 80              | 5.0341            | 4.9529  | 4.8747  | 4.7264  | 4.5882  |              |
| 81              | 4.8079            | 4.7340  | 4.6627  | 4.5274  | 4.4010  |              |
| 82              | 4.5991            | 4.5318  | 4.4668  | 4.3431  | 4.2273  |              |
| 83              | 4.4045            | 4.3431  | 4.2837  | 4.1706  | 4.0645  |              |
| 84              | 4.2172            | 4.1613  | 4.1071  | 4.0038  | 3.9067  |              |
| 85              | 4.0396            | 3.9886  | 3.9392  | 3.8449  | 3.7560  |              |
| 86              | 3.8702            | 3.8238  | 3.7788  | 3.6926  | 3.6113  |              |
| 87              | 3.7095            | 3.6672  | 3.6261  | 3.5475  | 3.4732  |              |
| 88              | 3.5576            | 3.5191  | 3.4817  | 3.4099  | 3.3419  |              |
| 89              | 3.4136            | 3.3786  | 3.3445  | 3.2789  | 3.2168  |              |
| 90              | 3.2777            | 3.2458  | 3.2147  | 3.1549  | 3.0981  |              |
| 91              | 3.1508            | 3.1217  | 3.0934  | 3.0388  | 2.9868  |              |
| 92              | 3.0304            | 3.0039  | 2.9781  | 2.9283  | 2.8809  |              |
| 93              | 2.9137            | 2.8897  | 2.8663  | 2.8210  | 2.7778  |              |
| 94              | 2.7991            | 2.7774  | 2.7562  | 2.7153  | 2.6760  |              |
| 95              | 2.6866            | 2.6672  | 2.6481  | 2.6112  | 2.5758  |              |
| 96              | 2.5747            | 2.5573  | 2.5403  | 2.5072  | 2.4755  |              |
| 97              | 2.4517            | 2.4364  | 2.4214  | 2.3923  | 2.3643  |              |
| 98              | 2.3524            | 2.3389  | 2.3256  | 2.2998  | 2.2750  |              |
| 99              | 2.2396            | 2.2280  | 2.2166  | 2.1944  | 2.1729  |              |
| 100             | 2.1005            | 2.0910  | 2.0816  | 2.0633  | 2.0455  |              |
| 101             | 1.9522            | 1.9447  | 1.9373  | 1.9228  | 1.9085  |              |
| 102             | 1.7655            | 1.7600  | 1.7546  | 1.7440  | 1.7335  |              |
| 103             | 1.5768            | 1.5732  | 1.5695  | 1.5623  | 1.5554  |              |
| 104             | 1.4854            | 1.4830  | 1.4806  | 1.4764  | 1.4711  |              |
| 105             | 1.0000            | 1.0000  | 1.0000  | 1.0000  | 1.0000  |              |

<sup>1</sup> This table appears on pages 68 and 69.

TABLE 93

## SINGLE AND ANNUAL NET PREMIUMS.

WHITE MALES

PRESENT VALUE, AT EACH AGE AND VARIOUS RATES OF INTEREST, OF \$1,000 WHOLE LIFE INSURANCE AND THE ANNUAL PAYMENT OF AN EQUIVALENT LIFE ANNUITY DUE, BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| 1000A <sub>x</sub> =1000M <sub>x</sub> /D <sub>x</sub> |                                       | WHITE MALES.                          |                                       | 1000P <sub>x</sub> =1000M <sub>x</sub> /N <sub>x</sub> |                                       |                                       |
|--------------------------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--------------------------------------------------------|---------------------------------------|---------------------------------------|
| AGE.                                                   | 3%                                    |                                       | 3½%                                   |                                                        | 4%                                    |                                       |
| x                                                      | SINGLE PREMIUM.<br>1000A <sub>x</sub> | ANNUAL PREMIUM.<br>1000P <sub>x</sub> | SINGLE PREMIUM.<br>1000A <sub>x</sub> | ANNUAL PREMIUM.<br>1000P <sub>x</sub>                  | SINGLE PREMIUM.<br>1000A <sub>x</sub> | ANNUAL PREMIUM.<br>1000P <sub>x</sub> |
| Years.                                                 |                                       |                                       |                                       |                                                        |                                       |                                       |
| 0                                                      | 329.9349                              | 14.3415                               | 295.6292                              | 14.1930                                                | 269.3504                              | 14.1787                               |
| 1                                                      | 247.0207                              | 9.5551                                | 208.4041                              | 8.9029                                                 | 178.9178                              | 8.3810                                |
| 2                                                      | 232.7909                              | 8.8376                                | 192.9335                              | 8.0840                                                 | 162.4500                              | 7.4599                                |
| 3                                                      | 229.9777                              | 8.6989                                | 189.3727                              | 7.8999                                                 | 158.2383                              | 7.2302                                |
| 4                                                      | 230.7683                              | 8.7378                                | 189.5649                              | 7.9098                                                 | 157.8804                              | 7.2108                                |
| 5                                                      | 233.3089                              | 8.8633                                | 191.5786                              | 8.0138                                                 | 159.3906                              | 7.2928                                |
| 6                                                      | 236.7112                              | 9.0326                                | 194.4880                              | 8.1649                                                 | 161.8163                              | 7.4252                                |
| 7                                                      | 240.7786                              | 9.2371                                | 198.0906                              | 8.3535                                                 | 164.9520                              | 7.5975                                |
| 8                                                      | 245.4333                              | 9.4737                                | 202.3082                              | 8.5764                                                 | 168.7203                              | 7.8063                                |
| 9                                                      | 250.6021                              | 9.7399                                | 207.0674                              | 8.8309                                                 | 173.0479                              | 8.0485                                |
| 10                                                     | 256.1909                              | 10.0320                               | 212.2715                              | 9.1126                                                 | 177.8372                              | 8.3194                                |
| 11                                                     | 262.1206                              | 10.3467                               | 217.8396                              | 9.4182                                                 | 183.0064                              | 8.6154                                |
| 12                                                     | 268.3198                              | 10.6811                               | 223.6980                              | 9.7445                                                 | 188.4806                              | 8.9329                                |
| 13                                                     | 274.7068                              | 11.0316                               | 229.7618                              | 10.0874                                                | 194.1726                              | 9.2677                                |
| 14                                                     | 281.2166                              | 11.3953                               | 235.9631                              | 10.4438                                                | 200.0125                              | 9.6161                                |
| 15                                                     | 287.8011                              | 11.7700                               | 242.2514                              | 10.8111                                                | 205.9482                              | 9.9755                                |
| 16                                                     | 294.4380                              | 12.1547                               | 248.6033                              | 11.1883                                                | 211.9555                              | 10.3448                               |
| 17                                                     | 301.0696                              | 12.5463                               | 254.9577                              | 11.5722                                                | 217.9705                              | 10.7202                               |
| 18                                                     | 307.6546                              | 12.9427                               | 261.2702                              | 11.9600                                                | 223.9463                              | 11.0989                               |
| 19                                                     | 314.1506                              | 13.3411                               | 267.4950                              | 12.3490                                                | 229.8345                              | 11.4778                               |
| 20                                                     | 320.5742                              | 13.7427                               | 273.6491                              | 12.7402                                                | 235.6518                              | 11.8579                               |
| 21                                                     | 326.8989                              | 14.1455                               | 279.7035                              | 13.1315                                                | 241.3670                              | 12.2369                               |
| 22                                                     | 333.2080                              | 14.5549                               | 285.7462                              | 13.5287                                                | 247.0719                              | 12.6211                               |
| 23                                                     | 339.6459                              | 14.9808                               | 291.9320                              | 13.9423                                                | 252.9293                              | 13.0216                               |
| 24                                                     | 346.2938                              | 15.4293                               | 298.3484                              | 14.3790                                                | 259.0322                              | 13.4456                               |
| 25                                                     | 353.1340                              | 15.9004                               | 304.9777                              | 14.8387                                                | 265.3634                              | 13.8930                               |
| 26                                                     | 360.1905                              | 16.3970                               | 311.8471                              | 15.3244                                                | 271.9524                              | 14.3668                               |
| 27                                                     | 367.4297                              | 16.9180                               | 318.9217                              | 15.8349                                                | 278.7641                              | 14.8657                               |
| 28                                                     | 374.8174                              | 17.4621                               | 326.1660                              | 16.3687                                                | 285.7618                              | 15.3882                               |
| 29                                                     | 382.3108                              | 18.0273                               | 333.5344                              | 16.9235                                                | 292.8981                              | 15.9317                               |
| 30                                                     | 389.9228                              | 18.6156                               | 341.0418                              | 17.5016                                                | 300.1894                              | 16.4984                               |
| 31                                                     | 397.6428                              | 19.2275                               | 348.6773                              | 18.1032                                                | 307.6249                              | 17.0886                               |
| 32                                                     | 405.4521                              | 19.8626                               | 356.4211                              | 18.7279                                                | 315.1843                              | 17.7018                               |
| 33                                                     | 413.3229                              | 20.5199                               | 364.2440                              | 19.3745                                                | 322.8369                              | 18.3365                               |
| 34                                                     | 421.2672                              | 21.2014                               | 372.1591                              | 20.0450                                                | 330.5968                              | 18.9949                               |
| 35                                                     | 429.2811                              | 21.9081                               | 380.1627                              | 20.7405                                                | 338.4609                              | 19.6779                               |
| 36                                                     | 437.3688                              | 22.6417                               | 388.2594                              | 21.4626                                                | 346.4342                              | 20.3872                               |
| 37                                                     | 445.5577                              | 23.4062                               | 396.4797                              | 22.2155                                                | 354.5497                              | 21.1272                               |
| 38                                                     | 453.8838                              | 24.2072                               | 404.8635                              | 23.0049                                                | 362.8510                              | 21.9035                               |
| 39                                                     | 462.3694                              | 25.0489                               | 413.4357                              | 23.8353                                                | 371.3656                              | 22.7211                               |
| 40                                                     | 471.0217                              | 25.9351                               | 422.2057                              | 24.7103                                                | 380.1047                              | 23.5837                               |
| 41                                                     | 479.8336                              | 26.8678                               | 431.1664                              | 25.6323                                                | 389.0616                              | 24.4933                               |
| 42                                                     | 488.8124                              | 27.8513                               | 440.3273                              | 26.6054                                                | 398.2483                              | 25.4544                               |
| 43                                                     | 497.9366                              | 28.8868                               | 449.6659                              | 27.6307                                                | 407.6416                              | 26.4680                               |
| 44                                                     | 507.1911                              | 29.9762                               | 459.1668                              | 28.7101                                                | 417.2261                              | 27.5358                               |
| 45                                                     | 516.5831                              | 31.1245                               | 468.8386                              | 29.8486                                                | 427.0127                              | 28.6630                               |
| 46                                                     | 526.0909                              | 32.3333                               | 478.6587                              | 31.0479                                                | 436.9771                              | 29.8510                               |
| 47                                                     | 535.7207                              | 33.6081                               | 488.6351                              | 32.3133                                                | 447.1291                              | 31.1054                               |
| 48                                                     | 545.5096                              | 34.9592                               | 498.8087                              | 33.6557                                                | 457.5151                              | 32.4373                               |
| 49                                                     | 555.4802                              | 36.3967                               | 509.2070                              | 35.0852                                                | 468.1651                              | 33.8570                               |
| 50                                                     | 565.6502                              | 37.9308                               | 519.8498                              | 36.6124                                                | 479.1031                              | 35.3756                               |
| 51                                                     | 576.0374                              | 39.5738                               | 530.7596                              | 38.2499                                                | 490.3550                              | 37.0058                               |
| 52                                                     | 586.6060                              | 41.3301                               | 541.8975                              | 40.0020                                                | 501.8807                              | 38.7520                               |
| 53                                                     | 597.2761                              | 43.1968                               | 553.1772                              | 41.8655                                                | 513.5882                              | 40.6104                               |
| 54                                                     | 607.9591                              | 45.1676                               | 564.5012                              | 43.8334                                                | 525.3723                              | 42.5736                               |

<sup>1</sup> This table appears on pages 68 and 69.

TABLE 93

## SINGLE AND ANNUAL NET PREMIUMS.

WHITE MALES

PRESENT VALUE, AT EACH AGE AND VARIOUS RATES OF INTEREST, OF \$1,000 WHOLE LIFE INSURANCE AND THE ANNUAL PAYMENT OF AN EQUIVALENT LIFE ANNUITY DUE, BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| 1000A <sub>x</sub> =1000M <sub>x</sub> /D <sub>x</sub> |                                       |                                       | WHITE MALES.                          |                                       | 1000P <sub>x</sub> =1000M <sub>x</sub> /N <sub>x</sub> |                                       |
|--------------------------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--------------------------------------------------------|---------------------------------------|
| AGE.                                                   | 3%                                    |                                       | 3½%                                   |                                       | 4%                                                     |                                       |
| x                                                      | SINGLE PREMIUM.<br>1000A <sub>x</sub> | ANNUAL PREMIUM.<br>1000P <sub>x</sub> | SINGLE PREMIUM.<br>1000A <sub>x</sub> | ANNUAL PREMIUM.<br>1000P <sub>x</sub> | SINGLE PREMIUM.<br>1000A <sub>x</sub>                  | ANNUAL PREMIUM.<br>1000P <sub>x</sub> |
| Years.                                                 |                                       |                                       |                                       |                                       |                                                        |                                       |
| 55                                                     | 618.6310                              | 47.2465                               | 575.8425                              | 45.9097                               | 537.2043                                               | 44.6454                               |
| 56                                                     | 629.2171                              | 49.4271                               | 587.1191                              | 48.0872                               | 548.9949                                               | 46.8181                               |
| 57                                                     | 639.6994                              | 51.7124                               | 598.3098                              | 50.3689                               | 560.7205                                               | 49.0944                               |
| 58                                                     | 650.1167                              | 54.1193                               | 609.4573                              | 52.7719                               | 572.4274                                               | 51.4917                               |
| 59                                                     | 660.5148                              | 56.6690                               | 620.6128                              | 55.3179                               | 584.1716                                               | 54.0322                               |
| 60                                                     | 670.8812                              | 59.3713                               | 631.7621                              | 58.0167                               | 595.9377                                               | 56.7256                               |
| 61                                                     | 681.2070                              | 62.2378                               | 642.8954                              | 60.8797                               | 607.7153                                               | 59.5834                               |
| 62                                                     | 691.4740                              | 65.2782                               | 653.9921                              | 63.9167                               | 619.4817                                               | 62.6152                               |
| 63                                                     | 701.6598                              | 68.5013                               | 665.0268                              | 67.1362                               | 631.2093                                               | 65.8294                               |
| 64                                                     | 711.7296                              | 71.9116                               | 675.9605                              | 70.5425                               | 642.8543                                               | 69.2299                               |
| 65                                                     | 721.7025                              | 75.5323                               | 686.8134                              | 74.1589                               | 654.4391                                               | 72.8402                               |
| 66                                                     | 731.6026                              | 79.3928                               | 697.6129                              | 78.0152                               | 665.9934                                               | 76.6905                               |
| 67                                                     | 741.4271                              | 83.5160                               | 708.3551                              | 82.1343                               | 677.5127                                               | 80.8037                               |
| 68                                                     | 751.1757                              | 87.9291                               | 719.0396                              | 86.5437                               | 688.9968                                               | 85.2077                               |
| 69                                                     | 760.8155                              | 92.6467                               | 729.6291                              | 91.2578                               | 700.4039                                               | 89.9165                               |
| 70                                                     | 770.3468                              | 97.7008                               | 740.1238                              | 96.3087                               | 711.7346                                               | 94.9625                               |
| 71                                                     | 779.7729                              | 103.1292                              | 750.5264                              | 101.7347                              | 722.9914                                               | 100.3844                              |
| 72                                                     | 789.0546                              | 108.9485                              | 760.7927                              | 107.5523                              | 734.1248                                               | 106.1986                              |
| 73                                                     | 798.1291                              | 115.1553                              | 770.8509                              | 113.7575                              | 745.0553                                               | 112.4006                              |
| 74                                                     | 806.9505                              | 121.7481                              | 780.6475                              | 120.3485                              | 755.7218                                               | 118.9880                              |
| 75                                                     | 815.4757                              | 128.7185                              | 790.1330                              | 127.3162                              | 766.0673                                               | 125.9515                              |
| 76                                                     | 823.6216                              | 136.0087                              | 799.2113                              | 134.6014                              | 775.9849                                               | 133.2302                              |
| 77                                                     | 831.4094                              | 143.6366                              | 807.9030                              | 142.2220                              | 785.4949                                               | 140.8421                              |
| 78                                                     | 838.9509                              | 151.7265                              | 816.3355                              | 150.3042                              | 794.7367                                               | 148.9150                              |
| 79                                                     | 846.3138                              | 160.3915                              | 824.5846                              | 158.9626                              | 803.7949                                               | 157.5657                              |
| 80                                                     | 853.3765                              | 169.5205                              | 832.5103                              | 168.0851                              | 812.5123                                               | 166.6803                              |
| 81                                                     | 859.9652                              | 178.8665                              | 839.9125                              | 177.4208                              | 820.6639                                               | 176.0048                              |
| 82                                                     | 866.0450                              | 188.3066                              | 846.7501                              | 186.8454                              | 828.2004                                               | 185.4129                              |
| 83                                                     | 871.7142                              | 197.9154                              | 853.1318                              | 196.4338                              | 835.2411                                               | 194.9801                              |
| 84                                                     | 877.1685                              | 207.9970                              | 859.2803                              | 206.4938                              | 842.0337                                               | 205.0176                              |
| 85                                                     | 882.3420                              | 218.4232                              | 865.1183                              | 216.8954                              | 848.4904                                               | 215.3941                              |
| 86                                                     | 887.2748                              | 229.2564                              | 870.6919                              | 227.7020                              | 854.6618                                               | 226.1734                              |
| 87                                                     | 891.9578                              | 240.4550                              | 875.9884                              | 238.8714                              | 860.5326                                               | 237.3131                              |
| 88                                                     | 896.3805                              | 251.9618                              | 880.9958                              | 250.3458                              | 866.0886                                               | 248.7547                              |
| 89                                                     | 900.5748                              | 263.8185                              | 885.7491                              | 262.1673                              | 871.3671                                               | 260.5407                              |
| 90                                                     | 904.5334                              | 275.9661                              | 890.2393                              | 274.2759                              | 876.3579                                               | 272.6102                              |
| 91                                                     | 908.2296                              | 288.2542                              | 894.4345                              | 286.5195                              | 881.0237                                               | 284.8092                              |
| 92                                                     | 911.7374                              | 300.8675                              | 898.4183                              | 299.0825                              | 885.4577                                               | 297.3222                              |
| 93                                                     | 915.1347                              | 314.0774                              | 902.2798                              | 312.2368                              | 889.7583                                               | 310.4209                              |
| 94                                                     | 918.4733                              | 328.1309                              | 906.0772                              | 326.2289                              | 893.9914                                               | 324.3520                              |
| 95                                                     | 921.7493                              | 343.0857                              | 909.8066                              | 341.1146                              | 898.1507                                               | 339.1692                              |
| 96                                                     | 925.0105                              | 359.2716                              | 913.5223                              | 357.2225                              | 902.2987                                               | 355.1994                              |
| 97                                                     | 928.5923                              | 378.7472                              | 917.6099                              | 376.6192                              | 906.8681                                               | 374.5172                              |
| 98                                                     | 931.4884                              | 395.9799                              | 920.9103                              | 393.7437                              | 910.5513                                               | 391.5342                              |
| 99                                                     | 934.7709                              | 417.3807                              | 924.6583                              | 415.0141                              | 914.7488                                               | 412.6777                              |
| 100                                                    | 938.8228                              | 446.9426                              | 929.2959                              | 444.4268                              | 919.9413                                               | 441.9416                              |
| 101                                                    | 943.1437                              | 483.1061                              | 934.2325                              | 480.4021                              | 925.5012                                               | 477.7369                              |
| 102                                                    | 948.5789                              | 537.2969                              | 940.4905                              | 534.3724                              | 932.5358                                               | 531.4923                              |
| 103                                                    | 954.0510                              | 605.0396                              | 946.8115                              | 601.8466                              | 939.6659                                               | 598.7114                              |
| 104                                                    | 956.7380                              | 644.0949                              | 949.7137                              | 640.4006                              | 942.6838                                               | 636.8715                              |
| 105                                                    | 971.0339                              | 971.0339                              | 966.2838                              | 966.2838                              | 961.8931                                               | 961.8931                              |

<sup>1</sup> This table appears on pages 68 and 69.

TABLE 94

COMMUTATION COLUMNS, 3%.

WHITE MALES

BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.     | WHITE MALES.         |                      |                      |                      |                      |                      |
|----------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <i>x</i> | <i>D<sub>x</sub></i> | <i>N<sub>x</sub></i> | <i>S<sub>x</sub></i> | <i>C<sub>x</sub></i> | <i>M<sub>x</sub></i> | <i>R<sub>x</sub></i> |
| Years.   |                      |                      |                      |                      |                      |                      |
| 0        | 100 000.00           | 2 300 556.89         | 51 237 889.36        | 11 966.99            | 32 993.49            | 808 191.19           |
| 1        | 85 120.39            | 2 200 556.89         | 48 937 332.47        | 2 331.040            | 21 026.499           | 775 197.702          |
| 2        | 80 310.11            | 2 115 436.50         | 46 736 775.58        | 992.0136             | 18 695.4595          | 754 171.2032         |
| 3        | 76 978.97            | 2 035 126.39         | 44 621 339.08        | 593.5093             | 17 703.4459          | 735 475.7437         |
| 4        | 74 143.36            | 1 958 147.42         | 42 586 212.69        | 411.4644             | 17 109.9366          | 717 772.2978         |
| 5        | 71 572.38            | 1 884 004.06         | 40 628 065.27        | 327.4563             | 16 698.4722          | 700 662.3612         |
| 6        | 69 160.29            | 1 812 431.68         | 38 744 061.21        | 268.3202             | 16 371.0159          | 683 963.8890         |
| 7        | 66 877.59            | 1 743 271.39         | 36 931 629.53        | 221.0346             | 16 102.6957          | 667 592.8731         |
| 8        | 64 708.66            | 1 676 393.80         | 35 188 358.14        | 183.9400             | 15 881.6611          | 651 490.1774         |
| 9        | 62 640.01            | 1 611 685.14         | 33 511 964.34        | 157.7479             | 15 697.7211          | 635 608.5163         |
| 10       | 60 657.79            | 1 549 045.13         | 31 900 279.20        | 140.1497             | 15 539.9732          | 619 910.7952         |
| 11       | 58 750.91            | 1 488 387.34         | 30 351 234.07        | 129.7553             | 15 399.8235          | 604 370.8220         |
| 12       | 56 909.96            | 1 429 636.43         | 28 862 846.73        | 126.6569             | 15 270.0682          | 588 970.9985         |
| 13       | 55 125.73            | 1 372 726.47         | 27 433 210.30        | 128.9180             | 15 143.4113          | 573 700.9303         |
| 14       | 53 391.21            | 1 317 600.74         | 26 060 483.83        | 134.7910             | 15 014.4933          | 558 557.5190         |
| 15       | 51 701.34            | 1 264 209.53         | 24 742 883.09        | 142.0821             | 14 879.7023          | 543 548.0257         |
| 16       | 50 053.39            | 1 212 508.19         | 23 478 673.56        | 153.0692             | 14 737.6202          | 528 663.3234         |
| 17       | 48 442.46            | 1 162 454.80         | 22 266 165.37        | 166.2327             | 14 584.5510          | 513 925.7032         |
| 18       | 46 865.28            | 1 114 012.34         | 21 103 710.57        | 181.3510             | 14 418.3183          | 499 311.1522         |
| 19       | 45 318.92            | 1 067 147.06         | 19 989 698.23        | 194.3402             | 14 236.9673          | 484 922.3339         |
| 20       | 43 804.61            | 1 021 828.14         | 18 922 551.17        | 208.0316             | 14 042.6271          | 470 685.8666         |
| 21       | 42 320.72            | 978 023.53           | 17 900 723.03        | 215.5416             | 13 834.5955          | 456 613.2395         |
| 22       | 40 872.53            | 935 702.81           | 16 922 699.50        | 213.8239             | 13 619.0539          | 442 808.6440         |
| 23       | 39 468.25            | 894 830.28           | 15 986 996.69        | 207.5960             | 13 405.2300          | 429 189.5901         |
| 24       | 38 111.09            | 855 362.03           | 15 092 166.41        | 202.9824             | 13 197.6340          | 415 784.3601         |
| 25       | 36 798.08            | 817 250.94           | 14 236 804.38        | 197.5340             | 12 994.6516          | 402 586.7261         |
| 26       | 35 528.75            | 780 452.86           | 13 419 553.44        | 194.4817             | 12 797.1176          | 389 592.0745         |
| 27       | 34 299.45            | 744 924.11           | 12 639 100.58        | 193.6250             | 12 602.6359          | 376 794.9569         |
| 28       | 33 106.82            | 710 624.66           | 11 894 176.47        | 195.1993             | 12 409.0109          | 364 192.3210         |
| 29       | 31 947.34            | 677 517.84           | 11 183 551.81        | 196.1057             | 12 213.8116          | 351 783.3101         |
| 30       | 30 820.73            | 645 570.50           | 10 506 033.97        | 197.5937             | 12 017.7059          | 339 569.4985         |
| 31       | 29 725.45            | 614 749.77           | 9 860 463.47         | 199.9936             | 11 820.1122          | 327 551.7926         |
| 32       | 28 659.66            | 585 024.32           | 9 245 713.70         | 203.5942             | 11 620.1186          | 315 731.6804         |
| 33       | 27 621.32            | 556 364.66           | 8 660 689.38         | 206.4493             | 11 416.5244          | 304 111.5618         |
| 34       | 26 610.37            | 528 743.34           | 8 104 324.72         | 209.3208             | 11 210.0751          | 292 695.0374         |
| 35       | 25 625.99            | 502 132.97           | 7 575 581.38         | 211.8499             | 11 000.7543          | 281 484.9623         |
| 36       | 24 667.75            | 476 506.98           | 7 073 448.41         | 213.0491             | 10 788.9044          | 270 484.2080         |
| 37       | 23 736.22            | 451 839.23           | 6 596 941.43         | 212.6979             | 10 575.8553          | 259 695.3036         |
| 38       | 22 832.18            | 428 103.01           | 6 145 102.20         | 211.5549             | 10 363.1574          | 249 119.4483         |
| 39       | 21 955.61            | 405 270.83           | 5 716 999.19         | 210.2980             | 10 151.6025          | 238 756.2909         |
| 40       | 21 105.83            | 383 315.22           | 5 311 728.36         | 209.5301             | 9 941.3045           | 228 604.6884         |
| 41       | 20 281.56            | 362 209.39           | 4 928 413.14         | 208.6286             | 9 731.7744           | 218 663.3839         |
| 42       | 19 482.21            | 341 927.83           | 4 566 203.75         | 208.7239             | 9 523.1458           | 208 931.6095         |
| 43       | 18 706.01            | 322 445.62           | 4 224 275.92         | 209.4539             | 9 314.4219           | 199 408.4637         |
| 44       | 17 951.75            | 303 739.58           | 3 901 830.30         | 209.9643             | 9 104.9680           | 190 094.0418         |
| 45       | 17 218.92            | 285 787.83           | 3 598 090.72         | 211.2942             | 8 895.0037           | 180 989.0738         |
| 46       | 16 506.10            | 268 568.91           | 3 312 302.89         | 212.3685             | 8 683.7095           | 172 094.0701         |
| 47       | 15 812.98            | 252 062.81           | 3 043 733.98         | 212.2329             | 8 471.3410           | 163 410.3606         |
| 48       | 15 140.17            | 236 249.83           | 2 791 671.17         | 211.4553             | 8 259.1081           | 154 939.0196         |
| 49       | 14 487.74            | 221 109.66           | 2 555 421.34         | 210.3147             | 8 047.6528           | 146 679.9115         |
| 50       | 13 855.45            | 206 621.92           | 2 334 311.68         | 208.8398             | 7 837.3381           | 138 632.2587         |
| 51       | 13 243.06            | 192 766.47           | 2 127 689.76         | 208.7774             | 7 628.4983           | 130 794.9206         |
| 52       | 12 648.56            | 179 523.41           | 1 934 923.29         | 211.2553             | 7 419.7209           | 123 166.4223         |
| 53       | 12 068.90            | 166 874.85           | 1 755 399.88         | 216.2491             | 7 208.4656           | 115 746.7014         |
| 54       | 11 501.13            | 154 805.95           | 1 588 525.03         | 221.5598             | 6 992.2165           | 108 538.2358         |

<sup>1</sup> This table appears on pages 68 and 69.

TABLE 94

## COMMUTATION COLUMNS, 3%.

## WHITE MALES

BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.     | WHITE MALES.         |                      |                      |                      |                      |                      |
|----------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <i>x</i> | <i>D<sub>x</sub></i> | <i>N<sub>x</sub></i> | <i>S<sub>x</sub></i> | <i>C<sub>x</sub></i> | <i>M<sub>x</sub></i> | <i>R<sub>x</sub></i> |
| Years.   |                      |                      |                      |                      |                      |                      |
| 55       | 10 944.58            | 143 304.82           | 1 433 719.08         | 228.4792             | 6 770.6567           | 101 546.0193         |
| 56       | 10 397.33            | 132 360.24           | 1 290 414.26         | 235.1784             | 6 542.1775           | 94 775.3626          |
| 57       | 9 859.317            | 121 962.913          | 1 158 054.017        | 240.0331             | 6 306.9991           | 88 233.1851          |
| 58       | 9 332.119            | 112 103.596          | 1 036 091.104        | 243.0069             | 6 066.9660           | 81 926.1860          |
| 59       | 8 817.303            | 102 771.477          | 923 987.508          | 245.7735             | 5 823.9591           | 75 859.2200          |
| 60       | 8 314.715            | 93 954.174           | 821 216.031          | 248.1729             | 5 578.1856           | 70 035.2609          |
| 61       | 7 824.366            | 85 639.459           | 727 261.857          | 250.3839             | 5 330.0127           | 64 457.0753          |
| 62       | 7 346.088            | 77 815.093           | 641 622.398          | 252.4110             | 5 079.6288           | 59 127.0626          |
| 63       | 6 879.713            | 70 469.005           | 563 807.305          | 254.4091             | 4 827.2178           | 54 047.4338          |
| 64       | 6 424.924            | 63 589.292           | 493 338.300          | 255.0519             | 4 572.8087           | 49 220.2160          |
| 65       | 5 982.738            | 57 164.368           | 429 749.008          | 254.3042             | 4 317.7568           | 44 647.4073          |
| 66       | 5 554.180            | 51 181.630           | 372 584.640          | 252.8316             | 4 063.4526           | 40 329.6505          |
| 67       | 5 139.576            | 45 627.450           | 321 403.010          | 250.5592             | 3 810.6210           | 36 266.1979          |
| 68       | 4 739.320            | 40 487.874           | 275 775.560          | 248.0745             | 3 560.0618           | 32 455.5769          |
| 69       | 4 353.207            | 35 748.554           | 235 287.686          | 244.6380             | 3 311.9873           | 28 895.5151          |
| 70       | 3 981.777            | 31 395.347           | 199 539.132          | 240.2102             | 3 067.3493           | 25 583.5278          |
| 71       | 3 625.593            | 27 413.570           | 168 143.785          | 235.4757             | 2 827.1391           | 22 516.1785          |
| 72       | 3 284.517            | 23 787.977           | 140 730.215          | 230.5821             | 2 591.6634           | 19 689.0394          |
| 73       | 2 958.270            | 20 503.460           | 116 942.238          | 224.9882             | 2 361.0813           | 17 097.3760          |
| 74       | 2 647.118            | 17 545.190           | 96 438.778           | 218.4351             | 2 136.0931           | 14 736.2947          |
| 75       | 2 351.582            | 14 898.072           | 78 893.588           | 211.2268             | 1 917.6580           | 12 600.2016          |
| 76       | 2 071.863            | 12 546.490           | 63 995.516           | 201.8911             | 1 706.4312           | 10 682.5436          |
| 77       | 1 809.626            | 10 474.627           | 51 449.026           | 189.8294             | 1 504.5401           | 8 976.1124           |
| 78       | 1 567.089            | 8 665.001            | 40 974.399           | 176.2663             | 1 314.7107           | 7 471.5723           |
| 79       | 1 345.180            | 7 097.912            | 32 309.398           | 163.2382             | 1 138.4444           | 6 156.8616           |
| 80       | 1 142.762            | 5 752.732            | 25 211.486           | 150.6371             | 975.2062             | 5 018.4172           |
| 81       | 958.8401             | 4 609.9705           | 19 458.7540          | 137.0370             | 824.5691             | 4 043.2110           |
| 82       | 793.8757             | 3 651.1304           | 14 848.7835          | 122.0373             | 687.5321             | 3 218.6419           |
| 83       | 648.7158             | 2 857.2547           | 11 197.6531          | 106.1252             | 565.4948             | 2 531.1098           |
| 84       | 523.6959             | 2 208.5389           | 8 340.3984           | 91.36078             | 459.36955            | 1 965.61504          |
| 85       | 417.0818             | 1 684.8130           | 6 131.8595           | 77.36637             | 368.00877            | 1 506.24549          |
| 86       | 327.5675             | 1 267.7612           | 4 447.0165           | 64.56812             | 290.64240            | 1 138.23672          |
| 87       | 253.4585             | 940.1937             | 3 179.2553           | 53.04327             | 226.07428            | 847.59432            |
| 88       | 193.0330             | 686.7352             | 2 239.0616           | 42.78322             | 173.03101            | 621.52004            |
| 89       | 144.6274             | 493.7022             | 1 552.3264           | 33.91498             | 130.24779            | 448.48903            |
| 90       | 106.5000             | 349.0748             | 1 058.6242           | 26.40962             | 96.33281             | 318.24124            |
| 91       | 76.98845             | 242.57475            | 709.54936            | 20.10366             | 69.92319             | 221.90843            |
| 92       | 54.64241             | 165.58630            | 466.97461            | 14.97456             | 49.81953             | 151.98524            |
| 93       | 38.07633             | 110.94389            | 301.38831            | 10.93487             | 34.84497             | 102.16571            |
| 94       | 26.03244             | 72.86756             | 190.44442            | 7.84164              | 23.91010             | 67.32074             |
| 95       | 17.43257             | 46.83512             | 117.57686            | 5.50496              | 16.06846             | 43.41064             |
| 96       | 11.41937             | 29.40255             | 70.74174             | 3.75261              | 10.56350             | 27.34218             |
| 97       | 7.33464              | 17.98268             | 41.33919             | 2.59448              | 6.81089              | 16.77868             |
| 98       | 4.52653              | 10.64804             | 23.35651             | 1.66141              | 4.21641              | 9.96779              |
| 99       | 2.73329              | 6.12151              | 12.70847             | 1.04066              | 2.55500              | 5.75138              |
| 100      | 1.61302              | 3.38822              | 6.58696              | .65673               | 1.51434              | 3.19638              |
| 101      | .90931               | 1.77520              | 3.19874              | .39237               | .85761               | 1.68204              |
| 102      | .49046               | .86589               | 1.42354              | .23809               | .46524               | .82443               |
| 103      | .23809               | .37543               | .55765               | .13869               | .22715               | .35919               |
| 104      | .09246               | .13734               | .18222               | .04488               | .08846               | .13204               |
| 105      | .04488               | .04488               | .04488               | .04358               | .04358               | .04358               |

<sup>1</sup> This table appears on pages 68 and 69.

TABLE 95

COMMUTATION COLUMNS, 3½%.

WHITE MALES

BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.     | WHITE MALES.         |                      |                      |                      |                      |                      |
|----------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <i>x</i> | <i>D<sub>x</sub></i> | <i>N<sub>x</sub></i> | <i>S<sub>x</sub></i> | <i>C<sub>x</sub></i> | <i>M<sub>x</sub></i> | <i>R<sub>x</sub></i> |
| Years.   |                      |                      |                      |                      |                      |                      |
| 0        | 100 000.00           | 2 082 924.98         | 43 308 482.48        | 11 909.18            | 29 562.92            | 618 386.92           |
| 1        | 84 709.18            | 1 982 924.98         | 41 225 557.50        | 2 308.572            | 17 653.744           | 588 823.996          |
| 2        | 79 536.05            | 1 898 215.80         | 39 242 632.52        | 977.7059             | 15 345.1719          | 571 170.2518         |
| 3        | 75 868.71            | 1 818 679.75         | 37 344 416.72        | 582.1234             | 14 367.4660          | 555 825.0799         |
| 4        | 72 720.98            | 1 742 811.04         | 35 525 736.97        | 401.6212             | 13 785.3426          | 541 457.6139         |
| 5        | 69 860.20            | 1 670 090.06         | 33 782 925.93        | 318.0788             | 13 383.7214          | 527 672.2713         |
| 6        | 67 179.70            | 1 600 229.86         | 32 112 835.87        | 259.3770             | 13 065.6426          | 514 288.5499         |
| 7        | 64 648.54            | 1 533 050.16         | 30 512 606.01        | 212.6352             | 12 806.2656          | 501 222.9073         |
| 8        | 62 249.72            | 1 468 401.62         | 28 979 555.85        | 176.0954             | 12 593.6304          | 488 416.6417         |
| 9        | 59 968.57            | 1 406 151.90         | 27 511 154.23        | 150.2908             | 12 417.5350          | 475 823.0113         |
| 10       | 57 790.35            | 1 346 183.33         | 26 105 002.33        | 132.8795             | 12 267.2442          | 463 405.4763         |
| 11       | 55 703.21            | 1 288 392.98         | 24 758 819.00        | 122.4299             | 12 134.3647          | 451 138.2321         |
| 12       | 53 697.10            | 1 232 689.77         | 23 470 426.02        | 118.9292             | 12 011.9348          | 439 003.8674         |
| 13       | 51 762.32            | 1 178 992.67         | 22 237 736.25        | 120.4674             | 11 893.0056          | 426 991.9326         |
| 14       | 49 891.44            | 1 127 230.35         | 21 058 743.58        | 125.3470             | 11 772.5382          | 415 088.9270         |
| 15       | 48 078.94            | 1 077 338.91         | 19 931 513.23        | 131.4889             | 11 647.1912          | 403 326.3888         |
| 16       | 46 321.60            | 1 029 259.97         | 18 854 174.32        | 140.9726             | 11 515.7023          | 391 679.1976         |
| 17       | 44 614.19            | 982 938.37           | 17 824 914.35        | 152.3562             | 11 374.7297          | 380 163.4953         |
| 18       | 42 953.14            | 938 324.18           | 16 841 975.98        | 165.4095             | 11 222.3735          | 368 788.7656         |
| 19       | 41 335.21            | 895 371.04           | 15 903 651.80        | 176.4006             | 11 056.9640          | 357 546.3921         |
| 20       | 39 761.00            | 854 035.83           | 15 008 280.76        | 187.9159             | 10 880.5634          | 346 509.4281         |
| 21       | 38 228.51            | 814 274.83           | 14 154 244.93        | 193.7592             | 10 692.6475          | 335 628.8647         |
| 22       | 36 742.00            | 776 046.32           | 13 339 970.10        | 191.2865             | 10 498.8883          | 324 936.2172         |
| 23       | 35 308.23            | 739 304.32           | 12 563 923.78        | 184.8179             | 10 307.6018          | 314 437.3289         |
| 24       | 33 929.41            | 703 996.09           | 11 824 619.46        | 179.8375             | 10 122.7839          | 304 129.7271         |
| 25       | 32 602.21            | 670 066.68           | 11 120 623.37        | 174.1648             | 9 942.9464           | 294 006.9432         |
| 26       | 31 325.55            | 637 464.47           | 10 450 556.69        | 170.6453             | 9 768.7816           | 284 063.9968         |
| 27       | 30 095.59            | 606 138.92           | 9 813 092.22         | 169.0729             | 9 598.1363           | 274 295.2152         |
| 28       | 28 908.79            | 576 043.33           | 9 206 953.30         | 169.6241             | 9 429.0634           | 264 697.0789         |
| 29       | 27 761.57            | 547 134.54           | 8 630 909.97         | 169.5885             | 9 259.4393           | 255 268.0155         |
| 30       | 26 653.19            | 519 372.97           | 8 083 775.43         | 170.0498             | 9 089.8508           | 246 008.5762         |
| 31       | 25 581.82            | 492 719.78           | 7 564 402.46         | 171.2837             | 8 919.8010           | 236 918.7254         |
| 32       | 24 545.45            | 467 137.96           | 7 071 682.68         | 173.5251             | 8 748.5173           | 227 998.9244         |
| 33       | 23 541.89            | 442 592.51           | 6 604 544.72         | 175.1085             | 8 574.9922           | 219 250.4071         |
| 34       | 22 570.68            | 419 050.62           | 6 161 952.21         | 176.6864             | 8 399.8837           | 210 675.4149         |
| 35       | 21 630.73            | 396 479.94           | 5 742 901.59         | 177.9573             | 8 223.1973           | 202 275.5312         |
| 36       | 20 721.30            | 374 849.21           | 5 346 421.65         | 178.1001             | 8 045.2400           | 194 052.3339         |
| 37       | 19 842.48            | 354 127.91           | 4 971 572.44         | 176.9475             | 7 867.1399           | 186 007.0939         |
| 38       | 18 994.53            | 334 285.43           | 4 617 444.53         | 175.1464             | 7 690.1924           | 178 139.9540         |
| 39       | 18 177.06            | 315 290.90           | 4 283 159.10         | 173.2647             | 7 515.0460           | 170 449.7616         |
| 40       | 17 389.11            | 297 113.84           | 3 967 868.20         | 171.7981             | 7 341.7813           | 162 934.7156         |
| 41       | 16 629.27            | 279 724.73           | 3 670 754.36         | 170.2325             | 7 169.9832           | 155 592.9343         |
| 42       | 15 896.70            | 263 095.46           | 3 391 029.63         | 169.4876             | 6 999.7507           | 148 422.9511         |
| 43       | 15 189.64            | 247 198.76           | 3 127 934.17         | 169.2587             | 6 830.2631           | 141 423.2004         |
| 44       | 14 506.72            | 232 009.12           | 2 880 735.41         | 168.8514             | 6 661.0044           | 134 592.9373         |
| 45       | 13 847.31            | 217 502.40           | 2 648 726.29         | 169.1001             | 6 492.1530           | 127 931.9329         |
| 46       | 13 209.94            | 203 655.09           | 2 431 223.89         | 169.1388             | 6 323.0529           | 121 439.7799         |
| 47       | 12 594.09            | 190 445.15           | 2 227 568.80         | 168.2143             | 6 153.9141           | 115 116.7270         |
| 48       | 11 999.99            | 177 851.06           | 2 037 123.65         | 166.7882             | 5 985.6998           | 108 962.8129         |
| 49       | 11 427.40            | 165 851.07           | 1 859 272.59         | 165.0872             | 5 818.9116           | 102 977.1131         |
| 50       | 10 875.88            | 154 423.67           | 1 693 421.52         | 163.1375             | 5 653.8244           | 97 158.2015          |
| 51       | 10 344.96            | 143 517.79           | 1 538 997.85         | 162.3009             | 5 490.6869           | 91 504.3771          |
| 52       | 9 832.830            | 133 202.826          | 1 395 450.055        | 163.4338             | 5 328.3860           | 86 013.6902          |
| 53       | 9 336.885            | 123 369.996          | 1 262 247.229        | 166.4890             | 5 164.9522           | 80 685.3042          |
| 54       | 8 854.655            | 114 033.111          | 1 138 877.233        | 169.7537             | 4 998.4632           | 75 520.3520          |

<sup>1</sup> This table appears on pages 68 and 69.



TABLE 95

COMMUTATION COLUMNS, 3½%.

WHITE MALES

BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.   | WHITE MALES.   |                |                |                |                |                |
|--------|----------------|----------------|----------------|----------------|----------------|----------------|
| x      | D <sub>x</sub> | N <sub>x</sub> | S <sub>x</sub> | C <sub>x</sub> | M <sub>x</sub> | R <sub>x</sub> |
| Years. |                |                |                |                |                |                |
| 55     | 8 385.469      | 105 178.456    | 1 024 844.122  | 174.2094       | 4 828.7095     | 70 521.8888    |
| 56     | 7 927.693      | 96 792.987     | 919 665.666    | 178.4511       | 4 654.5001     | 65 693.1793    |
| 57     | 7 481.156      | 88 865.294     | 822 872.679    | 181.2549       | 4 476.0490     | 61 038.6792    |
| 58     | 7 046.915      | 81 384.138     | 734 007.385    | 182.6140       | 4 294.7941     | 56 562.6302    |
| 59     | 6 625.999      | 74 337.223     | 652 623.247    | 183.8009       | 4 112.1801     | 52 267.8361    |
| 60     | 6 218.131      | 67 711.224     | 578 286.024    | 184.6986       | 3 928.3792     | 48 155.6560    |
| 61     | 5 823.157      | 61 493.093     | 510 574.800    | 185.4439       | 3 743.6806     | 44 227.2768    |
| 62     | 5 440.795      | 55 669.936     | 449 081.707    | 186.0421       | 3 558.2367     | 40 483.5962    |
| 63     | 5 070.765      | 50 229.141     | 393 411.771    | 186.6090       | 3 372.1946     | 36 925.3595    |
| 64     | 4 712.680      | 45 158.376     | 343 182.630    | 186.1767       | 3 185.5856     | 33 553.1649    |
| 65     | 4 367.138      | 40 445.696     | 298 024.254    | 184.7342       | 2 999.4089     | 30 367.5793    |
| 66     | 4 034.723      | 36 078.558     | 257 578.558    | 182.7772       | 2 814.6747     | 27 368.1704    |
| 67     | 3 715.506      | 32 043.835     | 221 500.000    | 180.2594       | 2 631.8975     | 24 553.4957    |
| 68     | 3 409.601      | 28 328.329     | 189 456.165    | 177.6096       | 2 451.6381     | 21 921.5982    |
| 69     | 3 116.691      | 24 918.728     | 161 127.836    | 174.3031       | 2 274.0285     | 19 469.9601    |
| 70     | 2 836.992      | 21 802.037     | 136 209.108    | 170.3216       | 2 099.7254     | 17 195.9316    |
| 71     | 2 570.734      | 18 965.045     | 114 407.071    | 166.1579       | 1 929.4038     | 15 096.2062    |
| 72     | 2 317.643      | 16 394.311     | 95 442.026     | 161.9188       | 1 763.2459     | 13 166.8024    |
| 73     | 2 077.350      | 14 076.668     | 79 047.715     | 157.2275       | 1 601.3271     | 11 403.5565    |
| 74     | 1 849.874      | 11 999.318     | 64 971.047     | 151.9106       | 1 444.0996     | 9 802.2294     |
| 75     | 1 635.407      | 10 149.444     | 52 971.729     | 146.1879       | 1 292.1890     | 8 358.1298     |
| 76     | 1 433.915      | 8 514.037      | 42 822.285     | 139.0518       | 1 146.0011     | 7 065.9408     |
| 77     | 1 246.374      | 7 080.122      | 34 308.248     | 130.1127       | 1 006.9493     | 5 919.9397     |
| 78     | 1 074.113      | 5 833.748      | 27 223.126     | 120.2326       | 876.8366       | 4 912.9904     |
| 79     | 917.5578       | 4 759.6351     | 21 394.3784    | 110.8082       | 756.6040       | 4 036.1538     |
| 80     | 775.7211       | 3 842.0773     | 16 634.7433    | 101.7604       | 645.7958       | 3 279.5498     |
| 81     | 647.7286       | 3 066.3562     | 12 792.6660    | 92.12588       | 544.03538      | 2 633.75396    |
| 82     | 533.6988       | 2 418.6276     | 9 726.3098     | 81.64571       | 451.90950      | 2 089.71858    |
| 83     | 434.0054       | 1 884.9288     | 7 307.6822     | 70.65715       | 370.26379      | 1 637.80908    |
| 84     | 348.6716       | 1 450.9234     | 5 422.7534     | 60.53328       | 299.60664      | 1 267.54529    |
| 85     | 276.3476       | 1 102.2518     | 3 971.8300     | 51.01331       | 239.07336      | 967.93865      |
| 86     | 215.9892       | 825.9042       | 2 869.5782     | 42.36881       | 188.06005      | 728.86529      |
| 87     | 166.3164       | 609.9150       | 2 043.6740     | 34.63820       | 145.69124      | 540.80524      |
| 88     | 126.0540       | 443.5986       | 1 433.7590     | 27.80323       | 111.05304      | 395.11400      |
| 89     | 93.98803       | 317.54462      | 990.16043      | 21.93362       | 83.24981       | 284.06096      |
| 90     | 68.87608       | 223.55659      | 672.61581      | 16.99721       | 61.31619       | 200.81115      |
| 91     | 49.54972       | 154.68051      | 449.05922      | 12.87620       | 44.31898       | 139.49496      |
| 92     | 34.99793       | 105.13079      | 294.37871      | 9.54472        | 31.44278       | 95.17598       |
| 93     | 24.26970       | 70.13286       | 189.24792      | 6.93617        | 21.89806       | 63.73320       |
| 94     | 16.51282       | 45.86316       | 119.11506      | 4.95006        | 14.96189       | 41.83514       |
| 95     | 11.00435       | 29.35034       | 73.25190       | 3.45823        | 10.01183       | 26.87325       |
| 96     | 7.17399        | 18.34599       | 43.90156       | 2.34601        | 6.55360        | 16.86142       |
| 97     | 4.58538        | 11.17200       | 25.55557       | 1.61415        | 4.20759        | 10.30782       |
| 98     | 2.81617        | 6.58662        | 14.38357       | 1.02865        | 2.59344        | 6.10023        |
| 99     | 1.69229        | 3.77045        | 7.79695        | .64120         | 1.56479        | 3.50679        |
| 100    | .99386         | 2.07816        | 4.02650        | .40269         | .92359         | 1.94200        |
| 101    | .55757         | 1.08430        | 1.94834        | .23943         | .52090         | 1.01841        |
| 102    | .29928         | .52673         | .86404         | .14458         | .28147         | .49751         |
| 103    | .14458         | .22745         | .33731         | .08382         | .13689         | .21604         |
| 104    | .05588         | .08287         | .10986         | .02699         | .05307         | .07915         |
| 105    | .02699         | .02699         | .02699         | .02608         | .02608         | .02608         |

<sup>1</sup> This table appears on pages 68 and 69.

TABLE 96

COMMUTATION COLUMNS, 4%.

WHITE MALES

BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.     | WHITE MALES.         |                      |                      |                      |                      |                      |
|----------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <i>x</i> | <i>D<sub>x</sub></i> | <i>N<sub>x</sub></i> | <i>S<sub>x</sub></i> | <i>C<sub>x</sub></i> | <i>M<sub>x</sub></i> | <i>R<sub>x</sub></i> |
| Years.   |                      |                      |                      |                      |                      |                      |
| 0        | 100 000.00           | 1 899 688.97         | 36 933 985.45        | 11 851.92            | 26 935.04            | 479 151.09           |
| 1        | 84 301.92            | 1 799 688.97         | 35 034 296.48        | 2 286.428            | 15 083.117           | 452 216.049          |
| 2        | 78 773.11            | 1 715 387.05         | 33 234 607.51        | 963.6721             | 12 796.6893          | 437 132.9325         |
| 3        | 74 779.71            | 1 636 613.94         | 31 519 220.46        | 571.0092             | 11 833.0172          | 424 336.2432         |
| 4        | 71 332.55            | 1 561 834.23         | 29 882 606.52        | 392.0592             | 11 262.0080          | 412 503.2260         |
| 5        | 68 196.94            | 1 490 501.68         | 28 320 772.29        | 309.0130             | 10 869.9488          | 401 241.2180         |
| 6        | 65 264.96            | 1 422 304.74         | 26 830 270.61        | 250.7729             | 10 560.9358          | 390 371.2692         |
| 7        | 62 504.00            | 1 357 039.78         | 25 407 965.87        | 204.5933             | 10 310.1629          | 379 810.3334         |
| 8        | 59 895.41            | 1 294 535.78         | 24 050 926.09        | 168.6208             | 10 105.5696          | 369 500.1705         |
| 9        | 57 423.12            | 1 234 640.37         | 22 756 390.31        | 143.2196             | 9 936.9488           | 359 394.6009         |
| 10       | 55 071.32            | 1 177 217.25         | 21 521 749.94        | 126.0187             | 9 793.7292           | 349 457.6521         |
| 11       | 52 827.17            | 1 122 145.93         | 20 344 532.69        | 115.5505             | 9 667.7105           | 339 663.9229         |
| 12       | 50 679.80            | 1 069 318.76         | 19 222 386.76        | 111.7068             | 9 552.1600           | 329 996.2124         |
| 13       | 48 618.87            | 1 018 638.96         | 18 153 068.00        | 112.6076             | 9 440.4532           | 320 444.0524         |
| 14       | 46 636.31            | 970 020.09           | 17 134 429.04        | 116.6055             | 9 327.8456           | 311 003.5992         |
| 15       | 44 726.00            | 923 383.78           | 16 164 408.95        | 121.7311             | 9 211.2401           | 301 675.7536         |
| 16       | 42 884.04            | 878 657.78           | 15 241 025.17        | 129.8834             | 9 089 5090           | 292 464.5135         |
| 17       | 41 104.77            | 835 773.74           | 14 362 367.39        | 139.6968             | 8 959.6256           | 283 375.0045         |
| 18       | 39 384.12            | 794 668.97           | 13 526 593.65        | 150.9363             | 8 819.9288           | 274 415.3789         |
| 19       | 37 718.41            | 755 284.85           | 12 731 924.68        | 160.1918             | 8 668.9925           | 265 595.4501         |
| 20       | 36 107.51            | 717 566.44           | 11 976 639.83        | 169.8286             | 8 508.8007           | 256 926.4576         |
| 21       | 34 548.93            | 681 458.93           | 11 259 073.39        | 174.2676             | 8 338 9721           | 248 417.6569         |
| 22       | 33 045.86            | 646 910.00           | 10 577 614.46        | 171.2165             | 8 164.7045           | 240 078.6848         |
| 23       | 31 603.65            | 613 864.14           | 9 930 704.46         | 164.6313             | 7 993.4880           | 231 913.9803         |
| 24       | 30 223.49            | 582 260.49           | 9 316 840.32         | 159.4246             | 7 828.8567           | 223 920.4923         |
| 25       | 28 901.62            | 552 037.00           | 8 734 579.83         | 153.6536             | 7 669.4321           | 216 091.6356         |
| 26       | 27 636.37            | 523 135.38           | 8 182 542.83         | 149.8248             | 7 515.7785           | 208 422.2035         |
| 27       | 26 423.61            | 495 499.01           | 7 659 407.45         | 147.7305             | 7 365.9537           | 200 906.4250         |
| 28       | 25 259.58            | 469 075.40           | 7 163 908.44         | 147.4996             | 7 218.2232           | 193 540.4713         |
| 29       | 24 140.56            | 443 815.82           | 6 694 833.04         | 146.7597             | 7 070.7236           | 186 322.2481         |
| 30       | 23 065.32            | 419 675.26           | 6 251 017.22         | 146.4514             | 6 923.9639           | 179 251.5245         |
| 31       | 22 031.74            | 396 609.94           | 5 831 341.96         | 146.8048             | 6 777.5125           | 172 327.5606         |
| 32       | 21 037.56            | 374 578.20           | 5 434 732.02         | 148.0109             | 6 630.7077           | 165 550.0481         |
| 33       | 20 080.41            | 353 540.64           | 5 060 153.82         | 148.6434             | 6 482.6968           | 158 919.3404         |
| 34       | 19 159.45            | 333 460.23           | 4 706 613.18         | 149.2617             | 6 334.0534           | 152 436.6436         |
| 35       | 18 273.28            | 314 300.78           | 4 373 152.95         | 149.6126             | 6 184.7917           | 146 102.5902         |
| 36       | 17 420.85            | 296 027.50           | 4 058 852.17         | 149.0128             | 6 035.1791           | 139 917.7985         |
| 37       | 16 601.81            | 278 606.65           | 3 762 824.67         | 147.3367             | 5 886.1663           | 133 882.6194         |
| 38       | 15 815.94            | 262 004.84           | 3 484 218.02         | 145.1358             | 5 738.8296           | 127 996.4531         |
| 39       | 15 062.50            | 246 188.90           | 3 222 213.18         | 142.8863             | 5 593.6938           | 122 257.6235         |
| 40       | 14 340.28            | 231 126.40           | 2 976 024.28         | 140.9957             | 5 450.8075           | 116 663.9297         |
| 41       | 13 647.74            | 216 786.12           | 2 744 897.88         | 139.0391             | 5 309.8118           | 111 213.1222         |
| 42       | 12 983.79            | 203 138.38           | 2 528 111.76         | 137.7651             | 5 170.7727           | 105 903.3104         |
| 43       | 12 346.65            | 190 154.59           | 2 324 973.38         | 136.9176             | 5 033.0076           | 100 732.5377         |
| 44       | 11 734.86            | 177 807.94           | 2 134 818.79         | 135.9315             | 4 896.0900           | 95 699.5301          |
| 45       | 11 147.58            | 166 073.08           | 1 957 010.85         | 135.4772             | 4 760.1585           | 90 803.4401          |
| 46       | 10 583.35            | 154 925.50           | 1 790 937.77         | 134.8567             | 4 624.6813           | 86 043.2816          |
| 47       | 10 041.45            | 144 342.15           | 1 636 012.27         | 133.4748             | 4 489.8246           | 81 418.6003          |
| 48       | 9 521.761            | 134 300.697          | 1 491 670.118        | 131.7070             | 4 356.3498           | 76 928.7757          |
| 49       | 9 023.832            | 124 778.936          | 1 357 369.421        | 129.7370             | 4 224.6428           | 72 572.4259          |
| 50       | 8 547.025            | 115 755.104          | 1 232 590.485        | 127.5885             | 4 094.9058           | 68 347.7831          |
| 51       | 8 090.705            | 107 208.079          | 1 116 835.381        | 126.3239             | 3 967.3173           | 64 252.8773          |
| 52       | 7 653.200            | 99 117.374           | 1 009 627.302        | 126.5941             | 3 840.9934           | 60 285.5600          |
| 53       | 7 232.252            | 91 464.174           | 910 509.928          | 128.3406             | 3 714.3993           | 56 444.5666          |
| 54       | 6 825.748            | 84 231.922           | 819 045.754          | 130.2281             | 3 586.0587           | 52 730.1673          |

<sup>1</sup> This table appears on pages 68 and 69.

TABLE 96

## COMMUTATION COLUMNS, 4%.

WHITE MALES

BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.     |                      | WHITE MALES.         |                      |                      |                      |                      |
|----------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <i>x</i> | <i>D<sub>x</sub></i> | <i>N<sub>x</sub></i> | <i>S<sub>x</sub></i> | <i>C<sub>x</sub></i> | <i>M<sub>x</sub></i> | <i>R<sub>x</sub></i> |
| Years.   |                      |                      |                      |                      |                      |                      |
| 55       | 6 432.991            | 77 406.174           | 734 813.832          | 133.0038             | 3 455.8306           | 49 144.1086          |
| 56       | 6 052.564            | 70 973.183           | 657 407.658          | 135.5873             | 3 322.8268           | 45 688.2780          |
| 57       | 5 684.186            | 64 920.619           | 586 434.475          | 137.0555             | 3 187.2395           | 42 365.4512          |
| 58       | 5 328.508            | 59 236.433           | 521 513.856          | 137.4193             | 3 050.1840           | 39 178.2117          |
| 59       | 4 986.146            | 53 907.925           | 462 277.423          | 137.6475             | 2 912.7647           | 36 128.0277          |
| 60       | 4 656.724            | 48 921.779           | 408 369.498          | 137.6548             | 2 775.1172           | 33 215.2630          |
| 61       | 4 339.964            | 44 265.055           | 359 447.719          | 137.5458             | 2 637.4624           | 30 440.1458          |
| 62       | 4 035.497            | 39 925.091           | 315 182.664          | 137.3261             | 2 499.9166           | 27 802.6834          |
| 63       | 3 742.959            | 35 889.594           | 275 257.573          | 137.0823             | 2 362.5905           | 25 302.7668          |
| 64       | 3 461.917            | 32 146.635           | 239 367.979          | 136.1072             | 2 225.5082           | 22 940.1763          |
| 65       | 3 192.659            | 28 684.718           | 207 221.344          | 134.4033             | 2 089.4010           | 20 714.6681          |
| 66       | 2 935.461            | 25 492.059           | 178 536.626          | 132.3402             | 1 954.9977           | 18 625.2671          |
| 67       | 2 690.219            | 22 556.598           | 153 044.567          | 129.8896             | 1 822.6575           | 16 670.2694          |
| 68       | 2 456.859            | 19 866.379           | 130 487.969          | 127.3651             | 1 692.7679           | 14 847.6119          |
| 69       | 2 235.000            | 17 409.520           | 110 621.590          | 124.3930             | 1 565.4028           | 13 154.8440          |
| 70       | 2 024.645            | 15 174.520           | 93 212.070           | 120.9671             | 1 441.0098           | 11 589.4412          |
| 71       | 1 825.807            | 13 149.875           | 78 037.550           | 117.4427             | 1 320.0427           | 10 148.4314          |
| 72       | 1 638.141            | 11 324.068           | 64 887.675           | 113.8962             | 1 202.6000           | 8 828.3887           |
| 73       | 1 461.239            | 9 685.927            | 53 563.607           | 110.0645             | 1 088.7038           | 7 625.7887           |
| 74       | 1 294.973            | 8 224.688            | 43 877.680           | 105.8313             | 978.6393             | 6 537.0849           |
| 75       | 1 139.336            | 6 929.715            | 35 652.992           | 101.3548             | 872.8080             | 5 558.4456           |
| 76       | 994.1601             | 5 790.3792           | 28 723.2770          | 95.94369             | 771.45318            | 4 685.63755          |
| 77       | 859.9795             | 4 796.2191           | 22 932.8978          | 89.34423             | 675.50949            | 3 914.18437          |
| 78       | 737.5591             | 3 936.2396           | 18 136.6787          | 82.16297             | 586.16526            | 3 238.67488          |
| 79       | 627.0285             | 3 198.6805           | 14 200.4391          | 75.35858             | 504.00229            | 2 652.50962          |
| 80       | 527.5535             | 2 571.6520           | 11 001.7586          | 68.87262             | 428.64371            | 2 148.50733          |
| 81       | 438.3903             | 2 044.0985           | 8 430.1066           | 62.05210             | 359.77109            | 1 719.86362          |
| 82       | 359.4770             | 1 605.7082           | 6 386.0081           | 54.72872             | 297.71899            | 1 360.09253          |
| 83       | 290.9223             | 1 246.2312           | 4 780.2999           | 47.13516             | 242.99027            | 1 062.37354          |
| 84       | 232.5977             | 955.3089             | 3 534.0687           | 40.18741             | 195.85511            | 819.38327            |
| 85       | 183.4643             | 722.7112             | 2 578.7598           | 33.70438             | 155.66770            | 623.52816            |
| 86       | 142.7036             | 539.2469             | 1 856.0486           | 27.85840             | 121.96332            | 467.86046            |
| 87       | 109.3566             | 396.5433             | 1 316.8017           | 22.66586             | 94.10492             | 345.89714            |
| 88       | 82.48470             | 287.18673            | 920.25839            | 18.10586             | 71.43906             | 251.79222            |
| 89       | 61.20635             | 204.70203            | 633.07166            | 14.21482             | 53.33320             | 180.35316            |
| 90       | 44.63745             | 143.49568            | 428.36963            | 10.96265             | 39.11838             | 127.01996            |
| 91       | 31.95797             | 98.85823             | 284.87395            | 8.26480              | 28.15573             | 87.90158             |
| 92       | 22.46401             | 66.90026             | 186.01572            | 6.09699              | 19.89093             | 59.74585             |
| 93       | 15.50302             | 44.43625             | 119.11546            | 4.40939              | 13.79394             | 39.85492             |
| 94       | 10.49736             | 28.93323             | 74.67921             | 3.13167              | 9.38455              | 26.06098             |
| 95       | 6.96195              | 18.43587             | 45.74598             | 2.17735              | 6.25288              | 16.67643             |
| 96       | 4.51683              | 11.47392             | 27.31011             | 1.46998              | 4.07553              | 10.42355             |
| 97       | 2.87313              | 6.95709              | 15.83619             | 1.00654              | 2.60555              | 6.34802              |
| 98       | 1.75609              | 4.08396              | 8.87910              | .63835               | 1.59901              | 3.74247              |
| 99       | 1.05019              | 2.32787              | 4.79514              | .39600               | .96066               | 2.14346              |
| 100      | .61380               | 1.27768              | 2.46727              | .24750               | .56466               | 1.18280              |
| 101      | .34269               | .66388               | 1.18959              | .14645               | .31716               | .61814               |
| 102      | .18306               | .32119               | .52571               | .08801               | .17071               | .30098               |
| 103      | .08801               | .13813               | .20452               | .05078               | .08270               | .13027               |
| 104      | .03385               | .05012               | .06639               | .01627               | .03192               | .04757               |
| 105      | .01627               | .01627               | .01627               | .01565               | .01565               | .01565               |

<sup>1</sup> This table appears on pages 68 and 69.

TABLE 97

COMMUTATION COLUMNS, 5%.

WHITE MALES

BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.   | WHITE MALES.   |                |                |                |                |                |
|--------|----------------|----------------|----------------|----------------|----------------|----------------|
| x      | D <sub>x</sub> | N <sub>x</sub> | S <sub>x</sub> | C <sub>x</sub> | M <sub>x</sub> | R <sub>x</sub> |
| Years. |                |                |                |                |                |                |
| 0      | 100 000.00     | 1 610 857.13   | 27 542 464.87  | 11 739.05      | 23 292.52      | 299 311.18     |
| 1      | 83 499.05      | 1 510 857.13   | 25 931 607.74  | 2 243.084      | 11 553.469     | 276 018.664    |
| 2      | 77 279.82      | 1 427 358.08   | 24 420 750.61  | 936.4000       | 9 310.3852     | 264 465.1948   |
| 3      | 72 663.43      | 1 350 078.26   | 22 993 392.53  | 549.5652       | 8 373.9852     | 255 154.8096   |
| 4      | 68 653.70      | 1 277 414.83   | 21 643 314.27  | 373.7420       | 7 824.4200     | 246 780.8244   |
| 5      | 65 010.73      | 1 208 761.13   | 20 365 899.44  | 291.7702       | 7 450.6780     | 238 956.4044   |
| 6      | 61 623.21      | 1 143 750.40   | 19 157 138.31  | 234.5248       | 7 158.9078     | 231 505.7264   |
| 7      | 58 454.25      | 1 082 127.19   | 18 013 387.01  | 189.5150       | 6 924.3830     | 224 346.8186   |
| 8      | 55 481.20      | 1 023 672.94   | 16 931 260.72  | 154.7061       | 6 734.8680     | 217 422.4356   |
| 9      | 52 684.53      | 968 191.74     | 15 907 587.78  | 130.1496       | 6 580.1619     | 210 687.5676   |
| 10     | 50 045.59      | 915 507.21     | 14 939 396.04  | 113.4278       | 6 450.0123     | 204 107.4057   |
| 11     | 47 549.04      | 865 461.62     | 14 023 888.83  | 103.0149       | 6 336.5845     | 197 657.3934   |
| 12     | 45 181.79      | 817 912.58     | 13 158 427.21  | 98.6398        | 6 233.5696     | 191 320.8089   |
| 13     | 42 931.63      | 772 730.79     | 12 340 514.63  | 98.4883        | 6 134.9298     | 185 087.2393   |
| 14     | 40 788.78      | 729 799.16     | 11 567 783.84  | 101.0136       | 6 036.4415     | 178 952.3095   |
| 15     | 38 745.45      | 689 010.38     | 10 837 984.68  | 104.4494       | 5 935.4279     | 172 915.8680   |
| 16     | 36 795.98      | 650 264.93     | 10 148 974.30  | 110.3831       | 5 830.9785     | 166 980.4401   |
| 17     | 34 933.40      | 613 468.95     | 9 498 709.37   | 117.5923       | 5 720.5954     | 161 149.4616   |
| 18     | 33 152.32      | 578 535.55     | 8 885 240.42   | 125.8434       | 5 603.0031     | 155 428.8662   |
| 19     | 31 447.79      | 545 383.23     | 8 306 704.87   | 132.2882       | 5 477.1597     | 149 325.8631   |
| 20     | 29 817.99      | 513 935.44     | 7 761 321.64   | 138.9107       | 5 344.8715     | 144 348.7034   |
| 21     | 28 259.17      | 484 117.45     | 7 247 386.20   | 141.1840       | 5 205.9608     | 139 003.8319   |
| 22     | 26 772.31      | 455 858.28     | 6 763 268.75   | 137.3911       | 5 064.7768     | 133 797.8711   |
| 23     | 25 360.05      | 429 085.97     | 6 307 410.47   | 130.8487       | 4 927.3857     | 128 733.0943   |
| 24     | 24 021.58      | 403 725.92     | 5 878 324.50   | 125.5037       | 4 796.5370     | 123 805.7086   |
| 25     | 22 752.19      | 379 704.34     | 5 474 598.58   | 119.8086       | 4 671.0333     | 119 009.1716   |
| 26     | 21 548.95      | 356 952.15     | 5 094 894.24   | 115.7105       | 4 551.2247     | 114 338.1383   |
| 27     | 20 407.10      | 335 403.20     | 4 737 942.09   | 113.0065       | 4 435.5142     | 109 786.9136   |
| 28     | 19 322.32      | 314 996.10     | 4 402 538.89   | 111.7553       | 4 322.5077     | 105 351.3994   |
| 29     | 18 290.46      | 295 673.78     | 4 087 542.79   | 110.1357       | 4 210.7524     | 101 028.8917   |
| 30     | 17 309.35      | 277 383.32     | 3 791 869.01   | 108.8576       | 4 100.6167     | 96 818.1393    |
| 31     | 16 376.23      | 260 073.97     | 3 514 485.69   | 108.0811       | 3 991.7591     | 92 717.5226    |
| 32     | 15 488.33      | 243 697.74     | 3 254 411.72   | 107.9312       | 3 883.6780     | 88 725.7635    |
| 33     | 14 642.86      | 228 209.41     | 3 010 713.98   | 107.3601       | 3 775.7468     | 84 842.0855    |
| 34     | 13 838.22      | 213 566.55     | 2 782 504.57   | 106.7800       | 3 668.3867     | 81 066.3387    |
| 35     | 13 072.48      | 199 728.33     | 2 568 938.02   | 106.0116       | 3 561.6067     | 77 397.9520    |
| 36     | 12 343.97      | 186 655.85     | 2 369 209.69   | 104.5811       | 3 455.5951     | 73 836.3453    |
| 37     | 11 651.58      | 174 311.88     | 2 182 553.84   | 102.4199       | 3 351.0140     | 70 380.7502    |
| 38     | 10 994.32      | 162 660.30     | 2 008 241.96   | 99.92914       | 3 248.59412    | 67 029.73622   |
| 39     | 10 370.85      | 151 665.98     | 1 845 581.66   | 97.44334       | 3 148.66498    | 63 781.14210   |
| 40     | 9 779.561      | 141 295.127    | 1 693 915.685  | 95.23825       | 3 051.22164    | 60 632.47712   |
| 41     | 9 218.629      | 131 515.566    | 1 552 620.558  | 93.02221       | 2 955.98339    | 57 581.25548   |
| 42     | 8 686.625      | 122 296.937    | 1 421 104.992  | 91.29207       | 2 862.96118    | 54 625.27209   |
| 43     | 8 181.681      | 113 610.312    | 1 298 808.055  | 89.86636       | 2 771.66911    | 51 762.31091   |
| 44     | 7 702.213      | 105 428.628    | 1 185 197.743  | 88.36943       | 2 681.80275    | 48 990.64180   |
| 45     | 7 247.072      | 97 726.415     | 1 079 769.115  | 87.23527       | 2 593.43332    | 46 308.83905   |
| 46     | 6 814.739      | 90 479.343     | 982 042.700    | 86.00873       | 2 506.19805    | 43 715.40573   |
| 47     | 6 404.218      | 83 664.604     | 891 563.357    | 84.31663       | 2 420.18932    | 41 209.20768   |
| 48     | 6 014.939      | 77 260.386     | 807 898.753    | 82.40752       | 2 335.87269    | 38 789.01836   |
| 49     | 5 646.105      | 71 245.447     | 730 638.367    | 80.40184       | 2 253.46517    | 36 453.14567   |
| 50     | 5 296.842      | 65 599.342     | 659 392.920    | 78.31725       | 2 173.06333    | 34 199.68050   |
| 51     | 4 966.294      | 60 302.500     | 593 793.578    | 76.80256       | 2 094.74608    | 32 026.61717   |
| 52     | 4 653.001      | 55 336.206     | 533 491.078    | 76.23382       | 2 017.94352    | 29 931.87109   |
| 53     | 4 355.196      | 50 683.205     | 478 154.872    | 76.54948       | 1 941.70970    | 27 913.92757   |
| 54     | 4 071.256      | 46 328.009     | 427 471.667    | 76.93553       | 1 865.16022    | 25 972.21787   |

<sup>1</sup>This table appears on pages 68 and 69.

# MONETARY TABLES.

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TABLE 97

COMMUTATION COLUMNS, 5%.

WHITE MALES

BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.     | WHITE MALES.         |                      |                      |                      |                      |                      |
|----------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <i>x</i> | <i>D<sub>x</sub></i> | <i>N<sub>x</sub></i> | <i>S<sub>x</sub></i> | <i>C<sub>x</sub></i> | <i>M<sub>x</sub></i> | <i>R<sub>x</sub></i> |
| Years.   |                      |                      |                      |                      |                      |                      |
| 55       | 3 800.451            | 42 256.753           | 381 143.658          | 77.82702             | 1 788.22469          | 24 107.05765         |
| 56       | 3 541.650            | 38 456.302           | 338 886.905          | 78.58311             | 1 710.39767          | 22 318.83296         |
| 57       | 3 294.417            | 34 914.652           | 300 430.603          | 78.67754             | 1 631.81456          | 20 608.43529         |
| 58       | 3 058.862            | 31 620.235           | 265 515.951          | 78.13510             | 1 553.13702          | 18 976.62073         |
| 59       | 2 835.067            | 28 561.373           | 233 895.716          | 77.51943             | 1 475.00192          | 17 423.48371         |
| 60       | 2 622.545            | 25 726.306           | 205 334.343          | 76.78523             | 1 397.48249          | 15 948.48179         |
| 61       | 2 420.876            | 23 103.761           | 179 608.037          | 75.99374             | 1 320.69726          | 14 550.99930         |
| 62       | 2 229.603            | 20 682.885           | 156 504.276          | 75.14975             | 1 244.70352          | 13 230.30204         |
| 63       | 2 048.282            | 18 453.282           | 135 821.391          | 74.30191             | 1 169.55377          | 11 985.59852         |
| 64       | 1 876.442            | 16 405.000           | 117 368.109          | 73.07077             | 1 095.25186          | 10 816.04475         |
| 65       | 1 714.017            | 14 528.558           | 100 963.109          | 71.46881             | 1 022.18109          | 9 720.79289          |
| 66       | 1 569.928            | 12 814.541           | 86 434.551           | 69.70155             | 950.71228            | 8 698.61180          |
| 67       | 1 446.897            | 11 253.613           | 73 620.010           | 67.75936             | 881.01073            | 7 747.89952          |
| 68       | 1 341.666            | 9 836.716            | 62 366.397           | 65.80958             | 813.25137            | 6 866.88879          |
| 69       | 1 254.825            | 8 555.050            | 52 529.681           | 63.66177             | 747.44179            | 6 053.63742          |
| 70       | 1 186.172            | 7 400.225            | 43 974.631           | 61.31887             | 683.78002            | 5 306.19563          |
| 71       | 1 135.5112           | 6 364.0531           | 36 574.4056          | 58.96533             | 622.46115            | 4 622.41561          |
| 72       | 1 092.4739           | 5 438.5419           | 30 210.3525          | 56.64010             | 563.49582            | 3 999.95446          |
| 73       | 1 056.6684           | 4 616.0680           | 24 771.8106          | 54.21336             | 506.85572            | 3 436.45864          |
| 74       | 1 037.8519           | 3 889.3996           | 20 155.7426          | 51.63176             | 452.64236            | 2 929.60292          |
| 75       | 1 025.8461           | 3 251.5477           | 16 266.3430          | 48.97690             | 401.01060            | 2 476.96056          |
| 76       | 1 014.4004           | 2 695.7016           | 13 014.7953          | 45.92059             | 352.03370            | 2 075.94996          |
| 77       | 1 003.6036           | 2 215.3012           | 10 319.0937          | 42.35471             | 306.11311            | 1 723.91626          |
| 78       | 993.6488             | 1 803.6976           | 8 103.7925           | 38.57938             | 263.75840            | 1 417.80315          |
| 79       | 984.4193             | 1 454.0488           | 6 300.0949           | 35.04741             | 225.17902            | 1 154.04475          |
| 80       | 975.3521             | 1 159.6295           | 4 846.0461           | 31.72590             | 190.13161            | 928.86573            |
| 81       | 966.9427             | 914.2774             | 3 686.4166           | 28.31182             | 158.40571            | 738.73412            |
| 82       | 958.0145             | 712.3347             | 2 772.1392           | 24.73264             | 130.09389            | 580.32841            |
| 83       | 949.4717             | 548.3202             | 2 059.8045           | 21.09816             | 105.36125            | 450.23452            |
| 84       | 941.1130             | 416.8485             | 1 511.4843           | 17.81696             | 84.26309             | 344.87327            |
| 85       | 932.83828            | 312.73547            | 1 094.63582          | 14.80041             | 66.44613             | 260.61018            |
| 86       | 924.66461            | 231.39719            | 781.90035            | 12.11679             | 51.64572             | 194.16405            |
| 87       | 916.56379            | 168.73258            | 550.50316            | 9.76445              | 39.52893             | 142.51833            |
| 88       | 908.53440            | 121.16879            | 381.77058            | 7.72572              | 29.76448             | 102.98940            |
| 89       | 900.11657            | 85.63439             | 260.60179            | 6.00765              | 22.03876             | 73.22492             |
| 90       | 891.86526            | 59.51782             | 174.96740            | 4.58906              | 16.03111             | 51.18616             |
| 91       | 883.37787            | 40.65256             | 115.44958            | 3.42677              | 11.44205             | 35.15505             |
| 92       | 874.91406            | 27.27469             | 74.79702             | 2.50387              | 8.01528              | 23.71300             |
| 93       | 866.36667            | 17.96063             | 47.52233             | 1.79357              | 5.51141              | 15.69772             |
| 94       | 857.26992            | 11.59396             | 29.56170             | 1.26171              | 3.71784              | 10.18631             |
| 95       | 848.20488            | 7.32404              | 17.96774             | .86887               | 2.45613              | 6.46847              |
| 96       | 839.180245           | 4.51916              | 10.64370             | .58101               | 1.58726              | 4.01234              |
| 97       | 830.113561           | 2.71671              | 6.12454              | .39405               | 1.00625              | 2.42508              |
| 98       | 821.068748           | 1.58110              | 3.40783              | .24753               | .61220               | 1.41883              |
| 99       | 812.040722           | .89362               | 1.82673              | .15209               | .36467               | .80663               |
| 100      | .23574               | .48640               | .93311               | .09415               | .21258               | .44196               |
| 101      | .13036               | .25066               | .44671               | .05518               | .11843               | .22938               |
| 102      | .06898               | .12030               | .19605               | .03285               | .06325               | .11095               |
| 103      | .03285               | .05132               | .07575               | .01877               | .03040               | .04770               |
| 104      | .01251               | .01847               | .02443               | .00596               | .01163               | .01730               |
| 105      | .00596               | .00596               | .00596               | .00567               | .00567               | .00567               |

<sup>1</sup> This table appears on pages 68 and 69.

TABLE 98

COMMUTATION COLUMNS, 6%.

WHITE MALES

BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.     | WHITE MALES.         |                      |                      |                      |                      |                      |
|----------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <i>x</i> | <i>D<sub>x</sub></i> | <i>N<sub>x</sub></i> | <i>S<sub>x</sub></i> | <i>C<sub>x</sub></i> | <i>M<sub>x</sub></i> | <i>R<sub>x</sub></i> |
| Years.   |                      |                      |                      |                      |                      |                      |
| 0        | 100 000.00           | 1 396 001.57         | 21 172 927.98        | 11 628.30            | 20 981.04            | 197 533.95           |
| 1        | 82 711.32            | 1 296 001.57         | 19 776 926.41        | 2 200.961            | 9 352.740            | 176 552.914          |
| 2        | 75 828.59            | 1 213 290.25         | 18 480 924.84        | 910.1473             | 7 151.7786           | 167 200.1738         |
| 3        | 70 626.25            | 1 137 461.66         | 17 267 634.59        | 529.1186             | 6 241.6313           | 160 048.3952         |
| 4        | 66 099.42            | 1 066 835.41         | 16 130 172.93        | 356.4421             | 5 712.5127           | 153 806.7639         |
| 5        | 62 001.50            | 1 000 735.99         | 15 063 337.52        | 275.6396             | 5 356.0706           | 148 094.2512         |
| 6        | 58 216.35            | 938 734.49           | 14 062 601.53        | 219.4688             | 5 080.4310           | 142 738.1806         |
| 7        | 54 701.61            | 880 518.14           | 13 123 867.04        | 175.6755             | 4 860.9622           | 137 657.7496         |
| 8        | 51 429.62            | 825 816.53           | 12 243 348.90        | 142.0556             | 4 685.2867           | 132 796.7874         |
| 9        | 48 376.45            | 774 386.91           | 11 417 532.37        | 118.3797             | 4 543.2311           | 128 111.5007         |
| 10       | 45 519.78            | 726 010.46           | 10 643 145.46        | 102.1968             | 4 424.8514           | 123 568.2396         |
| 11       | 42 841.00            | 680 490.68           | 9 917 135.00         | 91.9393              | 4 322.6516           | 119 143.4182         |
| 12       | 40 324.09            | 637 649.68           | 9 236 644.32         | 87.2041              | 4 230.7153           | 114 820.7636         |
| 13       | 37 951.39            | 597 325.59           | 8 598 994.64         | 86.2487              | 4 143.5112           | 110 590.0483         |
| 14       | 35 719.78            | 559 371.20           | 8 001 669.05         | 87.6257              | 4 057.2625           | 106 446.5371         |
| 15       | 33 610.28            | 523 651.42           | 7 442 297.85         | 89.7514              | 3 969.6368           | 102 389.2746         |
| 16       | 31 618.06            | 490 041.14           | 6 918 646.43         | 93.9552              | 3 879.8851           | 98 419.6378          |
| 17       | 29 734.41            | 458 423.08           | 6 428 605.29         | 99.1473              | 3 785.9302           | 94 539.7524          |
| 18       | 27 952.18            | 428 688.67           | 5 970 182.21         | 105.1031             | 3 686.7829           | 90 753.8222          |
| 19       | 26 264.88            | 400 736.49           | 5 541 493.54         | 109.4435             | 3 581.6798           | 87 067.0393          |
| 20       | 24 668.74            | 374 471.61           | 5 140 757.05         | 113.8381             | 3 472.2363           | 83 485.3595          |
| 21       | 23 158.56            | 349 802.87           | 4 766 285.44         | 114.6096             | 3 358.3982           | 80 013.1232          |
| 22       | 21 733.09            | 326 644.31           | 4 416 482.57         | 110.4784             | 3 243.7886           | 76 654.7250          |
| 23       | 20 392.44            | 304 911.22           | 4 089 838.26         | 104.2249             | 3 133.3102           | 73 410.9364          |
| 24       | 19 133.92            | 284 518.78           | 3 784 927.04         | 99.02442             | 3 029.08525          | 70 277.62621         |
| 25       | 17 951.85            | 265 384.86           | 3 500 408.26         | 93.63907             | 2 930.06083          | 67 248.54096         |
| 26       | 16 842.06            | 247 433.01           | 3 235 023.40         | 89.58295             | 2 836.42176          | 64 318.48013         |
| 27       | 15 799.16            | 230 590.95           | 2 987 590.39         | 86.66415             | 2 746.83881          | 61 482.05837         |
| 28       | 14 818.20            | 214 791.79           | 2 756 999.44         | 84.89610             | 2 660.17466          | 58 735.21956         |
| 29       | 13 894.54            | 199 973.59           | 2 542 207.65         | 82.87642             | 2 575.27856          | 56 075.04490         |
| 30       | 13 025.18            | 186 079.05           | 2 342 234.06         | 81.14189             | 2 492.40214          | 53 499.76634         |
| 31       | 12 206.76            | 173 053.87           | 2 156 155.01         | 79.80306             | 2 411.26025          | 51 007.36420         |
| 32       | 11 436.01            | 160 847.11           | 1 983 101.14         | 78.94056             | 2 331.45719          | 48 596.10395         |
| 33       | 10 709.75            | 149 411.10           | 1 822 254.03         | 77.78210             | 2 252.51663          | 46 264.64676         |
| 34       | 10 025.75            | 138 701.35           | 1 672 842.93         | 76.63197             | 2 174.73453          | 44 012.13013         |
| 35       | 9 381.627            | 128 675.599          | 1 534 141.581        | 75.36283             | 2 098.10256          | 41 837.39560         |
| 36       | 8 775.229            | 119 293.972          | 1 405 465.982        | 73.64446             | 2 022.73973          | 39 739.29304         |
| 37       | 8 204.873            | 110 518.743          | 1 286 172.010        | 71.44221             | 1 949.09527          | 37 716.55331         |
| 38       | 7 669.004            | 102 313.870          | 1 175 653.267        | 69.04720             | 1 877.65306          | 35 767.45804         |
| 39       | 7 165.863            | 94 644.866           | 1 073 339.397        | 66.69442             | 1 808.60586          | 33 889.80498         |
| 40       | 6 693.553            | 87 479.003           | 978 694.531          | 64.57021             | 1 741.91144          | 32 081.19912         |
| 41       | 6 250.103            | 80 785.450           | 891 215.528          | 62.47278             | 1 677.34123          | 30 339.28768         |
| 42       | 5 833.850            | 74 535.347           | 810 430.078          | 60.73244             | 1 614.86845          | 28 661.94645         |
| 43       | 5 442.900            | 68 701.497           | 735 894.731          | 59.21998             | 1 554.13601          | 27 047.07800         |
| 44       | 5 075.591            | 63 258.597           | 667 193.234          | 57.68416             | 1 494.91603          | 25 492.94199         |
| 45       | 4 730.609            | 58 183.006           | 603 934.637          | 56.40662             | 1 437.23187          | 23 998.02596         |
| 46       | 4 406.433            | 53 452.397           | 545 751.631          | 55.08888             | 1 380.82525          | 22 560.79409         |
| 47       | 4 101.923            | 49 045.964           | 492 299.234          | 53.49560             | 1 325.73637          | 21 179.96884         |
| 48       | 3 816.243            | 44 944.041           | 443 253.270          | 51.79109             | 1 272.24077          | 19 854.23247         |
| 49       | 3 548.438            | 41 127.798           | 398 309.229          | 50.05387             | 1 220.44968          | 18 581.99170         |
| 50       | 3 297.529            | 37 579.360           | 357 181.431          | 48.29616             | 1 170.39581          | 17 361.54202         |
| 51       | 3 062.581            | 34 281.831           | 319 602.071          | 46.91527             | 1 122.09965          | 16 191.14621         |
| 52       | 2 842.312            | 31 219.250           | 285 320.240          | 46.12854             | 1 075.18438          | 15 069.04656         |
| 53       | 2 635.298            | 28 376.938           | 254 100.990          | 45.88257             | 1 029.05584          | 13 993.86218         |
| 54       | 2 440.247            | 25 741.640           | 225 724.052          | 45.67891             | 983.17327            | 12 964.80634         |

<sup>1</sup> This table appears on pages 68 and 69.



TABLE 98

COMMUTATION COLUMNS, 6%.

WHITE MALES

BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.   | WHITE MALES.   |                |                |                |                |                |
|--------|----------------|----------------|----------------|----------------|----------------|----------------|
| x      | D <sub>x</sub> | N <sub>x</sub> | S <sub>x</sub> | C <sub>x</sub> | M <sub>x</sub> | R <sub>x</sub> |
| Years. |                |                |                |                |                |                |
| 55     | 2 256.441      | 23 301.393     | 199 982.412    | 45.77230       | 937.49436      | 11 981.63307   |
| 56     | 2 082.946      | 21 044.952     | 176 681.019    | 45.78096       | 891.72206      | 11 044.13871   |
| 57     | 1 919.262      | 18 962.006     | 155 636.067    | 45.40357       | 845.94110      | 10 152.41665   |
| 58     | 1 765.221      | 17 042.744     | 136 674.061    | 44.66515       | 800.53753      | 9 306.47555    |
| 59     | 1 620.638      | 15 277.523     | 119 631.317    | 43.89516       | 755.87238      | 8 505.93802    |
| 60     | 1 485.009      | 13 656.885     | 104 353.794    | 43.06924       | 711.97722      | 7 750.06564    |
| 61     | 1 357.882      | 12 171.876     | 90 696.909     | 42.22315       | 668.90798      | 7 038.08842    |
| 62     | 1 238.798      | 10 813.994     | 78 525.033     | 41.36031       | 626.68483      | 6 369.18044    |
| 63     | 1 127.317      | 9 575.196      | 67 711.039     | 40.50789       | 585.32452      | 5 742.49561    |
| 64     | 1 022.998      | 8 447.879      | 58 135.843     | 39.46090       | 544.81663      | 5 157.17109    |
| 65     | 925.6322       | 7 424.8811     | 49 687.9641    | 38.23166       | 505.35573      | 4 612.35446    |
| 66     | 835.0060       | 6 499.2489     | 42 263.0830    | 36.93453       | 467.12407      | 4 106.99873    |
| 67     | 750.8072       | 5 664.2429     | 35 763.8341    | 35.56663       | 430.18954      | 3 639.87466    |
| 68     | 672.7419       | 4 913.4357     | 30 099.5912    | 34.21732       | 394.62291      | 3 209.68512    |
| 69     | 600.4449       | 4 240.6938     | 25 186.1555    | 32.78832       | 360.40559      | 2 815.06221    |
| 70     | 533.6692       | 3 640.2489     | 20 945.4617    | 31.28368       | 327.61727      | 2 454.65662    |
| 71     | 472.1776       | 3 106.5797     | 17 305.2128    | 29.79916       | 296.33359      | 2 127.03935    |
| 72     | 415.6516       | 2 634.4021     | 14 198.6331    | 28.35402       | 266.53443      | 1 830.70576    |
| 73     | 363.7700       | 2 218.7505     | 11 564.2310    | 26.88316       | 238.18041      | 1 564.17133    |
| 74     | 316.2961       | 1 854.9805     | 9 345.4805     | 25.36147       | 211.29725      | 1 325.99092    |
| 75     | 273.0310       | 1 538.6844     | 7 490.5000     | 23.83046       | 185.93578      | 1 114.69367    |
| 76     | 233.7462       | 1 265.6534     | 5 951.8156     | 22.13258       | 162.10532      | 928.75789      |
| 77     | 198.3827       | 1 031.9072     | 4 686.1622     | 20.22132       | 139.97274      | 766.65257      |
| 78     | 166.9321       | 833.5245       | 3 654.2550     | 18.24511       | 119.75142      | 626.67983      |
| 79     | 139.2379       | 666.5924       | 2 820.7305     | 16.41838       | 101.50631      | 506.92841      |
| 80     | 114.9381       | 527.3545       | 2 154.1381     | 14.72218       | 85.08793       | 405.42210      |
| 81     | 93.71012       | 412.41636      | 1 626.78362    | 13.01395       | 70.36575       | 320.33417      |
| 82     | 75.39175       | 318.70624      | 1 214.36726    | 11.26148       | 57.35180       | 249.96842      |
| 83     | 59.86283       | 243.31449      | 895.66102      | 9.51596        | 46.09032       | 192.61662      |
| 84     | 46.95840       | 183.45166      | 652.34653      | 7.96023        | 36.57436       | 146.52630      |
| 85     | 36.34016       | 136.49326      | 468.89487      | 6.55012        | 28.61413       | 109.95194      |
| 86     | 27.73307       | 100.15310      | 332.40161      | 5.31186        | 22.06401       | 81.33781       |
| 87     | 20.85139       | 72.42003       | 232.24851      | 4.24024        | 16.75215       | 59.27380       |
| 88     | 15.43090       | 51.56864       | 159.82848      | 3.32326        | 12.51191       | 42.52165       |
| 89     | 11.23420       | 36.13774       | 108.25984      | 2.55984        | 9.18565        | 30.00974       |
| 90     | 8.03844        | 24.90354       | 72.12210       | 1.93694        | 6.62881        | 20.82109       |
| 91     | 5.64650        | 16.86510       | 47.21856       | 1.43272        | 4.69187        | 14.19228       |
| 92     | 3.89417        | 11.21860       | 30.35346       | 1.03698        | 3.25915        | 9.50041        |
| 93     | 2.63677        | 7.32443        | 19.13486       | .73580         | 2.22217        | 6.24126        |
| 94     | 1.75171        | 4.68766        | 11.81043       | .51273         | 1.48637        | 4.01909        |
| 95     | 1.13983        | 2.93595        | 7.12277        | .34976         | .97364         | 2.53272        |
| 96     | .72556         | 1.79612        | 4.18682        | .23167         | .62388         | 1.55908        |
| 97     | .45281         | 1.07056        | 2.39070        | .15564         | .39221         | .93520         |
| 98     | .27154         | .61775         | 1.32014        | .09685         | .23657         | .54299         |
| 99     | .15933         | .34621         | .70239         | .05894         | .13972         | .30642         |
| 100    | .09136         | .18688         | .35618         | .03615         | .08078         | .16670         |
| 101    | .05005         | .09552         | .16930         | .02098         | .04463         | .08592         |
| 102    | .02623         | .04547         | .07378         | .01237         | .02365         | .04129         |
| 103    | .01237         | .01924         | .02831         | .00700         | .01128         | .01764         |
| 104    | .00467         | .00687         | .00907         | .00220         | .00428         | .00636         |
| 105    | .00220         | .00220         | .00220         | .00208         | .00208         | .00208         |

<sup>1</sup> This table appears on pages 68 and 69.

TABLE 99

## LIFE ANNUITY DUE.

## WHITE FEMALES

PRESENT VALUE, AT EACH AGE AND VARIOUS RATES OF INTEREST, OF A LIFE ANNUITY OF ONE DOLLAR PER ANNUM, FIRST PAYMENT TO BE MADE AT ONCE, BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.   | LIFE ANNUITY DUE. |         |         |         |         | WHITE FEMALES. |
|--------|-------------------|---------|---------|---------|---------|----------------|
| $x$    | $a_x = N_x/D_x$   |         |         |         |         |                |
| Years. | 3%                | 3½%     | 4%      | 5%      | 6%      |                |
| 0      | 23.9867           | 21.6681 | 19.7231 | 16.6717 | 14.4142 |                |
| 1      | 26.3732           | 23.8281 | 21.6900 | 18.3297 | 15.8387 |                |
| 2      | 26.8274           | 24.2536 | 22.0882 | 18.6787 | 16.1461 |                |
| 3      | 26.9096           | 24.3456 | 22.1852 | 18.7771 | 16.2404 |                |
| 4      | 26.8872           | 24.3440 | 22.1979 | 18.8061 | 16.2761 |                |
| 5      | 26.8085           | 24.2921 | 22.1654 | 18.7978 | 16.2805 |                |
| 6      | 26.7022           | 24.2157 | 22.1110 | 18.7717 | 16.2701 |                |
| 7      | 26.5721           | 24.1180 | 22.0374 | 18.7299 | 16.2468 |                |
| 8      | 26.4211           | 24.0014 | 21.9468 | 18.6742 | 16.2117 |                |
| 9      | 26.2521           | 23.8687 | 21.8416 | 18.6064 | 16.1666 |                |
| 10     | 26.0686           | 23.7226 | 21.7244 | 18.5286 | 16.1130 |                |
| 11     | 25.8739           | 23.5665 | 21.5978 | 18.4430 | 16.0523 |                |
| 12     | 25.6710           | 23.4027 | 21.4642 | 18.3515 | 15.9873 |                |
| 13     | 25.4626           | 23.2337 | 21.3259 | 18.2560 | 15.9191 |                |
| 14     | 25.2512           | 23.0619 | 21.1849 | 18.1582 | 15.8486 |                |
| 15     | 25.0379           | 22.8882 | 21.0420 | 18.0588 | 15.7768 |                |
| 16     | 24.8248           | 22.7144 | 20.8991 | 17.9593 | 15.7030 |                |
| 17     | 24.6120           | 22.5408 | 20.7561 | 17.8598 | 15.6283 |                |
| 18     | 24.3998           | 22.3675 | 20.6135 | 17.7606 | 15.5529 |                |
| 19     | 24.1876           | 22.1941 | 20.4706 | 17.6613 | 15.4966 |                |
| 20     | 23.9761           | 22.0212 | 20.3282 | 17.5624 | 15.4198 |                |
| 21     | 23.7651           | 21.8486 | 20.1860 | 17.4638 | 15.3494 |                |
| 22     | 23.5537           | 21.6755 | 20.0433 | 17.3648 | 15.2789 |                |
| 23     | 23.3400           | 21.5002 | 19.8986 | 17.2642 | 15.2071 |                |
| 24     | 23.1226           | 21.3213 | 19.7505 | 17.1608 | 15.1331 |                |
| 25     | 22.9015           | 21.1390 | 19.5992 | 17.0547 | 15.0568 |                |
| 26     | 22.6769           | 20.9532 | 19.4447 | 16.9459 | 14.9784 |                |
| 27     | 22.4482           | 20.7635 | 19.2864 | 16.8339 | 14.8974 |                |
| 28     | 22.2148           | 20.5692 | 19.1238 | 16.7183 | 14.8133 |                |
| 29     | 21.9765           | 20.3703 | 18.9569 | 16.5988 | 14.7261 |                |
| 30     | 21.7332           | 20.1664 | 18.7853 | 16.4754 | 14.6355 |                |
| 31     | 21.4849           | 19.9578 | 18.6090 | 16.3478 | 14.5414 |                |
| 32     | 21.2315           | 19.7440 | 18.4280 | 16.2160 | 14.4437 |                |
| 33     | 20.9737           | 19.5260 | 18.2428 | 16.0806 | 14.3428 |                |
| 34     | 20.7112           | 19.3033 | 18.0530 | 15.9410 | 14.2385 |                |
| 35     | 20.4437           | 19.0757 | 17.8585 | 15.7972 | 14.1304 |                |
| 36     | 20.1708           | 18.8427 | 17.6587 | 15.6486 | 14.0181 |                |
| 37     | 19.8917           | 18.6034 | 17.4529 | 15.4945 | 13.9010 |                |
| 38     | 19.6055           | 18.3573 | 17.2403 | 15.3343 | 13.7784 |                |
| 39     | 19.3117           | 18.1036 | 17.0205 | 15.1673 | 13.6498 |                |
| 40     | 19.0101           | 17.8420 | 16.7929 | 14.9932 | 13.5147 |                |
| 41     | 18.7006           | 17.5727 | 16.5576 | 14.8118 | 13.3730 |                |
| 42     | 18.3836           | 17.2957 | 16.3148 | 14.6233 | 13.2248 |                |
| 43     | 18.0605           | 17.0125 | 16.0656 | 14.4287 | 13.0707 |                |
| 44     | 17.7318           | 16.7232 | 15.8104 | 14.2280 | 12.9110 |                |
| 45     | 17.3977           | 16.4284 | 15.5494 | 14.0216 | 12.7459 |                |
| 46     | 17.0587           | 16.1282 | 15.2828 | 13.8095 | 12.5752 |                |
| 47     | 16.7148           | 15.8227 | 15.0107 | 13.5917 | 12.3990 |                |
| 48     | 16.3652           | 15.5112 | 14.7322 | 13.3675 | 12.2166 |                |
| 49     | 16.0094           | 15.1929 | 14.4468 | 13.1362 | 12.0272 |                |
| 50     | 15.6474           | 14.8681 | 14.1545 | 12.8978 | 11.8308 |                |
| 51     | 15.2793           | 14.5366 | 13.8553 | 12.6521 | 11.6271 |                |
| 52     | 14.9055           | 14.1989 | 13.5493 | 12.3992 | 11.4163 |                |
| 53     | 14.5283           | 13.8569 | 13.2387 | 12.1410 | 11.1998 |                |
| 54     | 14.1499           | 13.5129 | 12.9253 | 11.8792 | 10.9791 |                |

<sup>1</sup> This table appears on pages 74 and 75.

TABLE 99

## LIFE ANNUITY DUE.

## WHITE FEMALES

PRESENT VALUE, AT EACH AGE AND VARIOUS RATES OF INTEREST, OF A LIFE ANNUITY OF ONE DOLLAR PER ANNUM, FIRST PAYMENT TO BE MADE AT ONCE, BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.   | $a_x = N_x/D_x$ | LIFE ANNUITY DUE. |         |         |         | WHITE FEMALES. |
|--------|-----------------|-------------------|---------|---------|---------|----------------|
| $x$    | 3%              | 3½%               | 4%      | 5%      | 6%      |                |
| Years. |                 |                   |         |         |         |                |
| 55     | 13.7713         | 13.1679           | 12.6101 | 11.6146 | 10.7551 |                |
| 56     | 13.3945         | 12.8235           | 12.2948 | 11.3486 | 10.5291 |                |
| 57     | 13.0202         | 12.4807           | 11.9802 | 11.0821 | 10.3017 |                |
| 58     | 12.6467         | 12.1377           | 11.6646 | 10.8136 | 10.0716 |                |
| 59     | 12.2724         | 11.7931           | 11.3467 | 10.5416 | 9.8374  |                |
| 60     | 11.8978         | 11.4472           | 11.0268 | 10.2665 | 9.5993  |                |
| 61     | 11.5223         | 11.0995           | 10.7043 | 9.9878  | 9.3570  |                |
| 62     | 11.1471         | 10.7511           | 10.3803 | 9.7064  | 9.1110  |                |
| 63     | 10.7746         | 10.4043           | 10.0571 | 9.4243  | 8.8634  |                |
| 64     | 10.4061         | 10.0606           | 9.7359  | 9.1427  | 8.6153  |                |
| 65     | 10.0410         | 9.7191            | 9.4161  | 8.8611  | 8.3661  |                |
| 66     | 9.6787          | 9.3794            | 9.0972  | 8.5790  | 8.1154  |                |
| 67     | 9.3197          | 9.0419            | 8.7796  | 8.2968  | 7.8634  |                |
| 68     | 8.9654          | 8.7082            | 8.4648  | 8.0158  | 7.6115  |                |
| 69     | 8.6177          | 8.3799            | 8.1545  | 7.7377  | 7.3613  |                |
| 70     | 8.2772          | 8.0577            | 7.8494  | 7.4632  | 7.1134  |                |
| 71     | 7.9456          | 7.7434            | 7.5511  | 7.1938  | 6.8693  |                |
| 72     | 7.6224          | 7.4364            | 7.2592  | 6.9294  | 6.6288  |                |
| 73     | 7.3056          | 7.1349            | 6.9720  | 6.6681  | 6.3903  |                |
| 74     | 6.9933          | 6.8370            | 6.6877  | 6.4084  | 6.1524  |                |
| 75     | 6.6859          | 6.5431            | 6.4065  | 6.1505  | 5.9152  |                |
| 76     | 6.3831          | 6.2530            | 6.1284  | 5.8943  | 5.6786  |                |
| 77     | 6.0856          | 5.9674            | 5.8539  | 5.6404  | 5.4432  |                |
| 78     | 5.7949          | 5.6877            | 5.5847  | 5.3904  | 5.2104  |                |
| 79     | 5.5145          | 5.4174            | 5.3239  | 5.1473  | 4.9833  |                |
| 80     | 5.2487          | 5.1607            | 5.0759  | 4.9154  | 4.7659  |                |
| 81     | 5.0059          | 4.9260            | 4.8489  | 4.7028  | 4.5664  |                |
| 82     | 4.7876          | 4.7149            | 4.6446  | 4.5112  | 4.3864  |                |
| 83     | 4.5846          | 4.5185            | 4.4545  | 4.3327  | 4.2185  |                |
| 84     | 4.3858          | 4.3257            | 4.2675  | 4.1567  | 4.0525  |                |
| 85     | 4.1919          | 4.1375            | 4.0848  | 3.9842  | 3.8894  |                |
| 86     | 4.0010          | 3.9519            | 3.9042  | 3.8131  | 3.7272  |                |
| 87     | 3.8147          | 3.7705            | 3.7276  | 3.6454  | 3.5677  |                |
| 88     | 3.6331          | 3.5934            | 3.5549  | 3.4809  | 3.4108  |                |
| 89     | 3.4584          | 3.4228            | 3.3882  | 3.3217  | 3.2586  |                |
| 90     | 3.2937          | 3.2618            | 3.2307  | 3.1709  | 3.1141  |                |
| 91     | 3.1395          | 3.1108            | 3.0829  | 3.0292  | 2.9780  |                |
| 92     | 2.9985          | 2.9727            | 2.9476  | 2.8991  | 2.8529  |                |
| 93     | 2.8691          | 2.8459            | 2.8232  | 2.7794  | 2.7376  |                |
| 94     | 2.7516          | 2.7306            | 2.7101  | 2.6704  | 2.6325  |                |
| 95     | 2.6438          | 2.6248            | 2.6062  | 2.5703  | 2.5358  |                |
| 96     | 2.5426          | 2.5255            | 2.5086  | 2.4760  | 2.4448  |                |
| 97     | 2.4425          | 2.4271            | 2.4119  | 2.3825  | 2.3542  |                |
| 98     | 2.3473          | 2.3334            | 2.3198  | 2.2933  | 2.2678  |                |
| 99     | 2.2622          | 2.2497            | 2.2375  | 2.2136  | 2.1906  |                |
| 100    | 2.1570          | 2.1460            | 2.1352  | 2.1141  | 2.0938  |                |
| 101    | 2.0973          | 2.0875            | 2.0778  | 2.0589  | 2.0407  |                |
| 102    | 2.0183          | 2.0099            | 2.0017  | 1.9854  | 1.9700  |                |
| 103    | 1.8355          | 1.8292            | 1.8230  | 1.8108  | 1.7990  |                |
| 104    | 1.7211          | 1.7165            | 1.7120  | 1.7030  | 1.6938  |                |
| 105    | 1.4855          | 1.4831            | 1.4808  | 1.4757  | 1.4727  |                |
| 106    | 1.0000          | 1.0000            | 1.0000  | 1.0000  | 1.0000  |                |

<sup>1</sup> This table appears on pages 74 and 75.

TABLE 100

## SINGLE AND ANNUAL NET PREMIUMS.

WHITE FEMALES

PRESENT VALUE, AT EACH AGE AND VARIOUS RATES OF INTEREST, OF \$1,000 WHOLE LIFE INSURANCE AND THE ANNUAL PAYMENT OF AN EQUIVALENT LIFE ANNUITY DUE, BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| 1000A <sub>x</sub> =1000M <sub>x</sub> /D <sub>x</sub> |                                       |                                       | WHITE FEMALES.                        |                                       | 1000P <sub>x</sub> =1000M <sub>x</sub> /N <sub>x</sub> |                                       |
|--------------------------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--------------------------------------------------------|---------------------------------------|
| AGE.                                                   | 3%                                    |                                       | 3½%                                   |                                       | 4%                                                     |                                       |
| x                                                      | SINGLE PREMIUM.<br>1000A <sub>x</sub> | ANNUAL PREMIUM.<br>1000P <sub>x</sub> | SINGLE PREMIUM.<br>1000A <sub>x</sub> | ANNUAL PREMIUM.<br>1000P <sub>x</sub> | SINGLE PREMIUM.<br>1000A <sub>x</sub>                  | ANNUAL PREMIUM.<br>1000P <sub>x</sub> |
| Years.                                                 |                                       |                                       |                                       |                                       |                                                        |                                       |
| 0                                                      | 301.3578                              | 12.5635                               | 267.2631                              | 12.3344                               | 241.4196                                               | 12.2405                               |
| 1                                                      | 231.8472                              | 8.7910                                | 194.2181                              | 8.1508                                | 165.7678                                               | 7.6426                                |
| 2                                                      | 218.6184                              | 8.1491                                | 179.8294                              | 7.4145                                | 150.4534                                               | 6.8115                                |
| 3                                                      | 216.2238                              | 8.0352                                | 176.7191                              | 7.2588                                | 146.7245                                               | 6.6136                                |
| 4                                                      | 216.8772                              | 8.0662                                | 176.7722                              | 7.2614                                | 146.2339                                               | 6.5877                                |
| 5                                                      | 219.1705                              | 8.1754                                | 178.5269                              | 7.3492                                | 147.4835                                               | 6.6538                                |
| 6                                                      | 222.2647                              | 8.3238                                | 181.1102                              | 7.4790                                | 149.5766                                               | 6.7648                                |
| 7                                                      | 226.0542                              | 8.5072                                | 184.4159                              | 7.6464                                | 152.4074                                               | 6.9158                                |
| 8                                                      | 230.4541                              | 8.7224                                | 188.3583                              | 7.8478                                | 155.8911                                               | 7.1031                                |
| 9                                                      | 235.3743                              | 8.9659                                | 192.8467                              | 8.0795                                | 159.9367                                               | 7.3226                                |
| 10                                                     | 240.7216                              | 9.2342                                | 197.7854                              | 8.3374                                | 164.4481                                               | 7.5698                                |
| 11                                                     | 246.3908                              | 9.5227                                | 203.0662                              | 8.6167                                | 169.3147                                               | 7.8394                                |
| 12                                                     | 252.3015                              | 9.8283                                | 208.6059                              | 8.9138                                | 174.4521                                               | 8.1276                                |
| 13                                                     | 258.3720                              | 10.1471                               | 214.3196                              | 9.2245                                | 179.7729                                               | 8.4298                                |
| 14                                                     | 264.5284                              | 10.4759                               | 220.1297                              | 9.5452                                | 185.1969                                               | 8.7419                                |
| 15                                                     | 270.7393                              | 10.8132                               | 226.0036                              | 9.8742                                | 190.6906                                               | 9.0624                                |
| 16                                                     | 276.9472                              | 11.1561                               | 231.8800                              | 10.2085                               | 196.1901                                               | 9.3875                                |
| 17                                                     | 283.1450                              | 11.5043                               | 237.7515                              | 10.5476                               | 201.6872                                               | 9.7170                                |
| 18                                                     | 289.3257                              | 11.8577                               | 243.6104                              | 10.8913                               | 207.1737                                               | 10.0504                               |
| 19                                                     | 295.5078                              | 12.2173                               | 249.4758                              | 11.2407                               | 212.6692                                               | 10.3890                               |
| 20                                                     | 301.6671                              | 12.5820                               | 255.3220                              | 11.5944                               | 218.1464                                               | 10.7312                               |
| 21                                                     | 307.8129                              | 12.9523                               | 261.1583                              | 11.9531                               | 223.6147                                               | 11.0777                               |
| 22                                                     | 313.9713                              | 13.3300                               | 267.0123                              | 12.3186                               | 229.1029                                               | 11.4304                               |
| 23                                                     | 320.1945                              | 13.7187                               | 272.9397                              | 12.6947                               | 234.6690                                               | 11.7932                               |
| 24                                                     | 326.5274                              | 14.1216                               | 278.9886                              | 13.0849                               | 240.3641                                               | 12.1700                               |
| 25                                                     | 332.9660                              | 14.5390                               | 285.1554                              | 13.4896                               | 246.1846                                               | 12.5610                               |
| 26                                                     | 339.5063                              | 14.9714                               | 291.4361                              | 13.9089                               | 252.1271                                               | 12.9664                               |
| 27                                                     | 346.1692                              | 15.4208                               | 297.8538                              | 14.3451                               | 258.2160                                               | 13.3855                               |
| 28                                                     | 352.9678                              | 15.8889                               | 304.4232                              | 14.8000                               | 264.4677                                               | 13.8292                               |
| 29                                                     | 359.9077                              | 16.3769                               | 311.1508                              | 15.2748                               | 270.8897                                               | 14.2898                               |
| 30                                                     | 366.9944                              | 16.8864                               | 318.0437                              | 15.7710                               | 277.4902                                               | 14.7717                               |
| 31                                                     | 374.2258                              | 17.4181                               | 325.1002                              | 16.2894                               | 284.2682                                               | 15.2758                               |
| 32                                                     | 381.6080                              | 17.9737                               | 332.3278                              | 16.8318                               | 291.2326                                               | 15.8038                               |
| 33                                                     | 389.1151                              | 18.5525                               | 339.6993                              | 17.3973                               | 298.3552                                               | 16.3547                               |
| 34                                                     | 396.7608                              | 19.1568                               | 347.2303                              | 17.9881                               | 305.6534                                               | 16.9309                               |
| 35                                                     | 404.5511                              | 19.7885                               | 354.9280                              | 18.6063                               | 313.1355                                               | 17.5343                               |
| 36                                                     | 412.5001                              | 20.4503                               | 362.8088                              | 19.2547                               | 320.8199                                               | 18.1678                               |
| 37                                                     | 420.6306                              | 21.1460                               | 370.8983                              | 19.9371                               | 328.7349                                               | 18.8356                               |
| 38                                                     | 428.9658                              | 21.8799                               | 379.2227                              | 20.6579                               | 336.9101                                               | 19.5420                               |
| 39                                                     | 437.5222                              | 22.6558                               | 387.8018                              | 21.4213                               | 345.3674                                               | 20.2913                               |
| 40                                                     | 446.3091                              | 23.4775                               | 396.6470                              | 22.2311                               | 354.1210                                               | 21.0876                               |
| 41                                                     | 455.3214                              | 24.3479                               | 405.7543                              | 23.0901                               | 363.1682                                               | 21.9336                               |
| 42                                                     | 464.5539                              | 25.2700                               | 415.1198                              | 24.0013                               | 372.5069                                               | 22.8324                               |
| 43                                                     | 473.9648                              | 26.2431                               | 424.6994                              | 24.9640                               | 382.0909                                               | 23.7831                               |
| 44                                                     | 483.5408                              | 27.2698                               | 434.4801                              | 25.9806                               | 391.9080                                               | 24.7880                               |
| 45                                                     | 493.2694                              | 28.3525                               | 444.4490                              | 27.0536                               | 401.9454                                               | 25.8496                               |
| 46                                                     | 503.1449                              | 29.4949                               | 454.6011                              | 28.1867                               | 412.1996                                               | 26.9715                               |
| 47                                                     | 513.1620                              | 30.7011                               | 464.9318                              | 29.3838                               | 422.6666                                               | 28.1577                               |
| 48                                                     | 523.3439                              | 31.9791                               | 475.4681                              | 30.6533                               | 433.3762                                               | 29.4169                               |
| 49                                                     | 533.7078                              | 33.3372                               | 486.2296                              | 32.0037                               | 444.3524                                               | 30.7578                               |
| 50                                                     | 544.2508                              | 34.7822                               | 497.2152                              | 33.4418                               | 455.5945                                               | 32.1872                               |
| 51                                                     | 554.9704                              | 36.3216                               | 508.4233                              | 34.9753                               | 467.1032                                               | 33.7129                               |
| 52                                                     | 565.8580                              | 37.9629                               | 519.8458                              | 36.6118                               | 478.8714                                               | 35.3428                               |
| 53                                                     | 576.8448                              | 39.7048                               | 531.4079                              | 38.3496                               | 490.8196                                               | 37.0746                               |
| 54                                                     | 587.8672                              | 41.5457                               | 543.0410                              | 40.1868                               | 502.8736                                               | 38.9062                               |

<sup>1</sup> This table appears on pages 74 and 75.

TABLE 100

## SINGLE AND ANNUAL NET PREMIUMS.

## WHITE FEMALES

PRESENT VALUE, AT EACH AGE AND VARIOUS RATES OF INTEREST, OF \$1.000 WHOLE LIFE INSURANCE AND THE ANNUAL PAYMENT OF AN EQUIVALENT LIFE ANNUITY DUE, BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| 1000A <sub>x</sub> =1000M <sub>x</sub> /D <sub>x</sub> |                                       | WHITE FEMALES.                        |                                       | 1000P <sub>x</sub> =1000M <sub>x</sub> /N <sub>x</sub> |                                       |                                       |
|--------------------------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--------------------------------------------------------|---------------------------------------|---------------------------------------|
| AGE.                                                   | 3%                                    |                                       | 3½%                                   |                                                        | 4%                                    |                                       |
| x                                                      | SINGLE PREMIUM.<br>1000A <sub>x</sub> | ANNUAL PREMIUM.<br>1000P <sub>x</sub> | SINGLE PREMIUM.<br>1000A <sub>x</sub> | ANNUAL PREMIUM.<br>1000P <sub>x</sub>                  | SINGLE PREMIUM.<br>1000A <sub>x</sub> | ANNUAL PREMIUM.<br>1000P <sub>x</sub> |
| Years.                                                 |                                       |                                       |                                       |                                                        |                                       |                                       |
| 55                                                     | 598.8927                              | 43.4883                               | 554.7091                              | 42.1259                                                | 514.9958                              | 40.8399                               |
| 56                                                     | 609.8691                              | 45.5313                               | 566.3535                              | 44.1651                                                | 527.1222                              | 42.8735                               |
| 57                                                     | 620.7716                              | 47.6776                               | 577.9473                              | 46.3073                                                | 539.2235                              | 45.0096                               |
| 58                                                     | 631.6503                              | 49.9460                               | 589.5460                              | 48.5714                                                | 551.3602                              | 47.2677                               |
| 59                                                     | 642.5508                              | 52.3573                               | 601.2000                              | 50.9790                                                | 563.5875                              | 49.6696                               |
| 60                                                     | 653.4623                              | 54.9230                               | 612.8978                              | 53.5415                                                | 575.8936                              | 52.2269                               |
| 61                                                     | 664.3980                              | 57.6617                               | 624.6545                              | 56.2777                                                | 588.2956                              | 54.9587                               |
| 62                                                     | 675.3271                              | 60.5832                               | 636.4362                              | 59.1973                                                | 600.7569                              | 57.8746                               |
| 63                                                     | 686.1781                              | 63.6851                               | 648.1629                              | 62.2974                                                | 613.1900                              | 60.9711                               |
| 64                                                     | 696.9087                              | 66.9710                               | 659.7870                              | 65.5814                                                | 625.5425                              | 64.2511                               |
| 65                                                     | 707.5442                              | 70.4656                               | 671.3359                              | 69.0741                                                | 637.8443                              | 67.7401                               |
| 66                                                     | 718.0955                              | 74.1933                               | 682.8221                              | 72.8001                                                | 650.1086                              | 71.4627                               |
| 67                                                     | 728.5536                              | 78.1739                               | 694.2345                              | 76.7795                                                | 662.3236                              | 75.4390                               |
| 68                                                     | 738.8721                              | 82.4138                               | 705.5210                              | 81.0183                                                | 674.4311                              | 79.6749                               |
| 69                                                     | 748.9998                              | 86.9144                               | 716.6229                              | 85.5172                                                | 686.3659                              | 84.1703                               |
| 70                                                     | 758.9159                              | 91.6873                               | 727.5157                              | 90.2877                                                | 698.0997                              | 88.9366                               |
| 71                                                     | 768.5755                              | 96.7300                               | 738.1475                              | 95.3266                                                | 709.5739                              | 93.9699                               |
| 72                                                     | 777.9890                              | 102.0664                              | 748.5282                              | 100.6576                                               | 720.7986                              | 99.2939                               |
| 73                                                     | 787.2160                              | 107.7555                              | 758.7248                              | 106.3405                                               | 731.8455                              | 104.9690                              |
| 74                                                     | 796.3110                              | 113.8674                              | 768.7969                              | 112.4464                                               | 742.7815                              | 111.0671                              |
| 75                                                     | 805.2652                              | 120.4423                              | 778.7347                              | 119.0156                                               | 753.5946                              | 117.6289                              |
| 76                                                     | 814.0847                              | 127.5376                              | 788.5450                              | 126.1061                                               | 764.2917                              | 124.7129                              |
| 77                                                     | 822.7505                              | 135.1971                              | 798.2054                              | 133.7620                                               | 774.8483                              | 132.3637                              |
| 78                                                     | 831.2159                              | 143.4386                              | 807.6619                              | 142.0014                                               | 785.2043                              | 140.5996                              |
| 79                                                     | 839.3836                              | 152.2137                              | 816.8043                              | 150.7752                                               | 795.2344                              | 149.3705                              |
| 80                                                     | 847.1265                              | 161.3986                              | 825.4855                              | 159.9575                                               | 804.7740                              | 158.5489                              |
| 81                                                     | 854.1966                              | 170.6378                              | 833.4199                              | 169.1877                                               | 813.5021                              | 167.7689                              |
| 82                                                     | 860.5558                              | 179.7478                              | 840.5600                              | 178.2786                                               | 821.3596                              | 176.8400                              |
| 83                                                     | 866.4667                              | 188.9935                              | 847.2018                              | 187.4980                                               | 828.6743                              | 186.0322                              |
| 84                                                     | 872.2590                              | 198.8836                              | 853.7203                              | 197.3599                                               | 835.8637                              | 195.8652                              |
| 85                                                     | 877.9048                              | 209.4269                              | 860.0829                              | 207.8726                                               | 842.8910                              | 206.3464                              |
| 86                                                     | 883.4674                              | 220.8142                              | 866.3619                              | 219.2284                                               | 849.8369                              | 217.6700                              |
| 87                                                     | 888.8918                              | 233.0161                              | 872.4939                              | 231.3974                                               | 856.6296                              | 229.8054                              |
| 88                                                     | 894.1812                              | 246.1201                              | 878.4826                              | 244.4681                                               | 863.2740                              | 242.8421                              |
| 89                                                     | 899.2705                              | 260.0260                              | 884.2525                              | 258.3400                                               | 869.6841                              | 256.6793                              |
| 90                                                     | 904.0680                              | 274.4875                              | 889.6983                              | 272.7655                                               | 875.7419                              | 271.0683                              |
| 91                                                     | 908.5595                              | 289.4008                              | 894.8027                              | 287.6409                                               | 881.4259                              | 285.9053                              |
| 92                                                     | 912.6660                              | 304.3768                              | 899.4730                              | 302.5751                                               | 886.6309                              | 300.7975                              |
| 93                                                     | 916.4336                              | 319.4130                              | 903.7618                              | 317.5660                                               | 891.4144                              | 315.7430                              |
| 94                                                     | 919.8573                              | 334.3027                              | 907.6609                              | 332.4053                                               | 895.7665                              | 330.5323                              |
| 95                                                     | 922.9960                              | 349.1143                              | 911.2376                              | 347.1610                                               | 899.7595                              | 345.2320                              |
| 96                                                     | 925.9431                              | 364.1669                              | 914.5974                              | 362.1519                                               | 903.5132                              | 360.1616                              |
| 97                                                     | 928.8584                              | 380.2853                              | 917.9239                              | 378.2055                                               | 907.2340                              | 376.1508                              |
| 98                                                     | 931.6319                              | 396.8911                              | 921.0891                              | 394.7399                                               | 910.7778                              | 392.6159                              |
| 99                                                     | 934.1112                              | 412.9192                              | 923.9194                              | 410.6825                                               | 913.9447                              | 408.4748                              |
| 100                                                    | 937.1811                              | 434.4926                              | 927.4301                              | 432.1731                                               | 917.8834                              | 429.8854                              |
| 101                                                    | 938.9198                              | 447.6740                              | 929.4034                              | 445.2259                                               | 920.0983                              | 442.8142                              |
| 102                                                    | 941.2210                              | 466.3420                              | 932.0286                              | 463.7179                                               | 923.0169                              | 461.1216                              |
| 103                                                    | 946.5533                              | 515.6963                              | 938.1403                              | 512.8678                                               | 929.9105                              | 510.0888                              |
| 104                                                    | 949.9243                              | 551.9213                              | 942.0134                              | 548.7957                                               | 934.2688                              | 545.7291                              |
| 105                                                    | 956.7784                              | 644.0945                              | 949.8055                              | 640.4396                                               | 943.1644                              | 636.9295                              |
| 106                                                    | 970.8582                              | 970.8582                              | 966.2577                              | 966.2577                                               | 961.6613                              | 961.6613                              |

<sup>1</sup> This table appears on pages 74 and 75.

TABLE 101

COMMUTATION COLUMNS, 3%.

WHITE FEMALES

BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.     | WHITE FEMALES.       |                      |                      |                      |                      |                      |
|----------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <i>x</i> | <i>D<sub>x</sub></i> | <i>N<sub>x</sub></i> | <i>S<sub>x</sub></i> | <i>C<sub>x</sub></i> | <i>M<sub>x</sub></i> | <i>R<sub>x</sub></i> |
| Years.   |                      |                      |                      |                      |                      |                      |
| 0        | 100 000.00           | 2 398 671.57         | 54 635 739.24        | 9 928.155            | 30 135.780           | 807 339.357          |
| 1        | 87 159.22            | 2 298 671.57         | 52 237 067.67        | 2 185.880            | 20 207.625           | 777 203.577          |
| 2        | 82 434.73            | 2 211 512.35         | 49 938 396.10        | 914.2265             | 18 021.7449          | 756 995.9525         |
| 3        | 79 119.49            | 2 129 077.62         | 47 726 883.75        | 572.1857             | 17 107.5184          | 738 974.2076         |
| 4        | 76 242.85            | 2 049 958.13         | 45 597 806.13        | 399.3879             | 16 535.3327          | 721 866.6892         |
| 5        | 73 622.80            | 1 973 715.28         | 43 547 848.00        | 319.9190             | 16 135.9448          | 705 331.3565         |
| 6        | 71 158.53            | 1 900 092.48         | 41 574 132.72        | 256.9369             | 15 816.0258          | 689 195.4117         |
| 7        | 68 829.01            | 1 828 933.95         | 39 674 040.24        | 206.8252             | 15 559.0889          | 673 379.3859         |
| 8        | 66 617.46            | 1 760 104.94         | 37 845 106.29        | 168.6117             | 15 352.2637          | 657 820.2970         |
| 9        | 64 508.53            | 1 693 487.48         | 36 085 001.35        | 141.3778             | 15 183.6520          | 642 468.0333         |
| 10       | 62 488.26            | 1 628 978.95         | 34 391 513.87        | 124.9789             | 15 042.2742          | 627 284.3813         |
| 11       | 60 543.24            | 1 566 490.69         | 32 762 534.92        | 116.4291             | 14 917.2953          | 612 242.1071         |
| 12       | 58 663.41            | 1 505 947.45         | 31 196 044.23        | 115.0808             | 14 800.8662          | 597 324.8118         |
| 13       | 56 839.69            | 1 447 284.04         | 29 690 096.78        | 119.6623             | 14 685.7854          | 582 523.9156         |
| 14       | 55 064.50            | 1 390 444.35         | 28 242 812.74        | 126.4468             | 14 566.1231          | 567 838.1202         |
| 15       | 53 334.24            | 1 335 379.85         | 26 852 368.39        | 137.0967             | 14 439.6763          | 553 272.2771         |
| 16       | 51 643.71            | 1 282 045.61         | 25 516 988.54        | 147.6240             | 14 302.5796          | 538 832.3698         |
| 17       | 49 991.90            | 1 230 401.90         | 24 234 942.93        | 158.0092             | 14 154.9556          | 524 529.7642         |
| 18       | 48 377.82            | 1 180 410.00         | 23 004 541.03        | 166.5235             | 13 996.9464          | 510 374.8256         |
| 19       | 46 802.23            | 1 132 032.18         | 21 824 131.03        | 176.0689             | 13 830.4229          | 496 377.6792         |
| 20       | 45 262.99            | 1 085 229.95         | 20 692 098.85        | 184.3794             | 13 654.3540          | 482 547.4333         |
| 21       | 43 760.27            | 1 039 966.96         | 19 606 868.90        | 190.4908             | 13 469.9746          | 468 893.1023         |
| 22       | 42 295.21            | 996 206.69           | 18 566 901.94        | 193.0496             | 13 279.4838          | 455 423.1277         |
| 23       | 40 870.26            | 953 911.48           | 17 570 695.25        | 192.8380             | 13 086.4342          | 442 143.6339         |
| 24       | 39 487.03            | 913 041.22           | 16 616 783.77        | 192.9527             | 12 893.5962          | 429 057.2097         |
| 25       | 38 143.97            | 873 554.19           | 15 703 742.55        | 193.3607             | 12 700.6435          | 416 163.6135         |
| 26       | 36 839.62            | 835 410.22           | 14 830 188.36        | 192.6809             | 12 507.2828          | 403 462.9700         |
| 27       | 35 573.94            | 798 570.60           | 13 994 778.14        | 191.4396             | 12 314.6019          | 390 955.6872         |
| 28       | 34 346.37            | 762 996.66           | 13 196 207.54        | 190.1072             | 12 123.1623          | 378 641.0853         |
| 29       | 33 155.88            | 728 650.29           | 12 433 210.88        | 188.6899             | 11 933.0551          | 366 517.9230         |
| 30       | 32 001.48            | 695 494.41           | 11 704 560.59        | 187.5940             | 11 744.3652          | 354 584.8679         |
| 31       | 30 881.81            | 663 492.93           | 11 009 066.18        | 186.4018             | 11 556.7712          | 342 840.5027         |
| 32       | 29 795.94            | 632 611.12           | 10 345 573.25        | 186.6280             | 11 370.3694          | 331 283.7315         |
| 33       | 28 741.47            | 602 815.18           | 9 712 962.13         | 186.3169             | 11 183.7414          | 319 913.3621         |
| 34       | 27 718.02            | 574 073.71           | 9 110 146.95         | 185.8655             | 10 997.4245          | 308 729.6207         |
| 35       | 26 724.83            | 546 355.69           | 8 536 073.24         | 184.9374             | 10 811.5590          | 297 732.1962         |
| 36       | 25 761.50            | 519 630.86           | 7 989 717.55         | 183.2357             | 10 626.6216          | 286 920.6372         |
| 37       | 24 827.93            | 493 869.36           | 7 470 086.69         | 180.8257             | 10 443.3859          | 276 294.0156         |
| 38       | 23 923.96            | 469 041.43           | 6 976 217.33         | 178.0850             | 10 262.5602          | 265 850.6297         |
| 39       | 23 049.06            | 445 117.47           | 6 507 175.90         | 175.3505             | 10 084.4752          | 255 588.0695         |
| 40       | 22 202.38            | 422 068.41           | 6 062 058.43         | 173.2195             | 9 909.1247           | 245 503.5943         |
| 41       | 21 382.49            | 399 866.03           | 5 639 990.02         | 171.6418             | 9 735.9052           | 235 594.4696         |
| 42       | 20 538.06            | 378 483.54           | 5 240 123.99         | 171.9728             | 9 564.2634           | 225 858.5644         |
| 43       | 19 816.43            | 357 895.48           | 4 861 640.45         | 172.9561             | 9 392.2906           | 216 294.3010         |
| 44       | 19 066.30            | 338 079.05           | 4 503 744.97         | 174.5295             | 9 219.3345           | 206 902.0104         |
| 45       | 18 336.44            | 319 012.75           | 4 165 665.92         | 176.3780             | 9 044.8050           | 197 682.6759         |
| 46       | 17 625.99            | 300 676.31           | 3 846 653.17         | 178.4693             | 8 868.4270           | 188 637.8709         |
| 47       | 16 934.14            | 283 050.32           | 3 545 976.86         | 179.8051             | 8 689.9577           | 179 769.4439         |
| 48       | 16 261.11            | 266 116.18           | 3 262 926.54         | 180.6768             | 8 510.1526           | 171 079.4862         |
| 49       | 15 606.81            | 249 855.07           | 2 996 810.36         | 181.8013             | 8 329.4758           | 162 569.3336         |
| 50       | 14 970.44            | 234 248.26           | 2 746 955.29         | 183.1500             | 8 147.6745           | 154 239.8578         |
| 51       | 14 351.26            | 219 277.82           | 2 512 707.03         | 184.9110             | 7 964.5245           | 146 092.1833         |
| 52       | 13 748.35            | 204 926.56           | 2 293 429.21         | 188.9190             | 7 779.6135           | 138 127.6588         |
| 53       | 13 158.99            | 191 178.21           | 2 088 502.65         | 194.7661             | 7 590.6945           | 130 348.0453         |
| 54       | 12 580.95            | 178 019.22           | 1 897 324.44         | 201.2928             | 7 395.9284           | 122 757.3508         |

<sup>1</sup> This table appears on pages 74 and 75.



TABLE 101

COMMUTATION COLUMNS, 3%.

WHITE FEMALES

BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.     | WHITE FEMALES.       |                      |                      |                      |                      |                      |
|----------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <i>x</i> | <i>D<sub>x</sub></i> | <i>N<sub>x</sub></i> | <i>S<sub>x</sub></i> | <i>C<sub>x</sub></i> | <i>M<sub>x</sub></i> | <i>R<sub>x</sub></i> |
| Years.   |                      |                      |                      |                      |                      |                      |
| 55       | 12 013.23            | 165 438.27           | 1 719 305.22         | 208.9935             | 7 194.6356           | 115 361.4224         |
| 56       | 11 454.33            | 153 425.04           | 1 553 866.95         | 216.8167             | 6 985.6421           | 108 166.7868         |
| 57       | 10 903.89            | 141 970.71           | 1 400 441.91         | 222.5663             | 6 768.8254           | 101 181.1447         |
| 58       | 10 363.74            | 131 066.82           | 1 258 471.20         | 226.5733             | 6 546.2591           | 94 412.3193          |
| 59       | 9 835.309            | 120 703.082          | 1 127 404.384        | 230.4975             | 6 319.6858           | 87 866.0602          |
| 60       | 9 318.347            | 110 867.773          | 1 006 701.302        | 233.6714             | 6 089.1883           | 81 546.3744          |
| 61       | 8 813.267            | 101 549.426          | 895 833.529          | 237.2648             | 5 855.5169           | 75 457.1861          |
| 62       | 8 319.305            | 92 736.159           | 794 284.103          | 242.1592             | 5 618.2521           | 69 601.6692          |
| 63       | 7 834.836            | 84 416.854           | 701 547.944          | 247.3213             | 5 376.0929           | 63 983.4171          |
| 64       | 7 359.316            | 76 582.018           | 617 131.090          | 250.9523             | 5 128.7716           | 58 607.3242          |
| 65       | 6 894.014            | 69 222.703           | 540 549.072          | 253.4513             | 4 877.8193           | 53 478.5526          |
| 66       | 6 439.767            | 62 328.688           | 471 326.370          | 255.3158             | 4 624.3680           | 48 600.7333          |
| 67       | 5 996.885            | 55 888.921           | 408 997.682          | 257.2586             | 4 369.0522           | 43 976.3653          |
| 68       | 5 564.960            | 49 892.036           | 353 108.761          | 259.1319             | 4 111.7936           | 39 607.3131          |
| 69       | 5 143.742            | 44 327.076           | 303 216.725          | 260.0463             | 3 852.6617           | 35 495.5195          |
| 70       | 4 733.878            | 39 183.334           | 258 889.649          | 260.3197             | 3 592.6154           | 31 642.8578          |
| 71       | 4 335.678            | 34 449.456           | 219 706.315          | 258.6899             | 3 332.2957           | 28 050.2424          |
| 72       | 3 950.706            | 30 113.778           | 185 256.859          | 254.3915             | 3 073.6058           | 24 717.9467          |
| 73       | 3 581.246            | 26 163.072           | 155 143.081          | 247.8798             | 2 819.2143           | 21 644.3409          |
| 74       | 3 229.058            | 22 581.826           | 128 980.009          | 240.4421             | 2 571.3345           | 18 825.1266          |
| 75       | 2 894.565            | 19 352.768           | 106 398.183          | 231.8523             | 2 330.8924           | 16 253.7921          |
| 76       | 2 578.405            | 16 458.203           | 87 045.415           | 222.5321             | 2 099.0401           | 13 922.8997          |
| 77       | 2 280.774            | 13 879.798           | 70 587.212           | 212.7604             | 1 876.5080           | 11 823.8596          |
| 78       | 2 001.583            | 11 599.024           | 56 707.414           | 202.8853             | 1 663.7476           | 9 947.3516           |
| 79       | 1 740.399            | 9 597.441            | 45 108.390           | 192.7470             | 1 460.8623           | 8 283.6040           |
| 80       | 1 496.961            | 7 857.042            | 35 510.949           | 182.8448             | 1 268.1153           | 6 822.7417           |
| 81       | 1 270.516            | 6 360.081            | 27 653.907           | 170.4326             | 1 085.2705           | 5 554.6264           |
| 82       | 1 063.078            | 5 089.565            | 21 293.826           | 153.8582             | 914.8379             | 4 469.3559           |
| 83       | 878.2561             | 4 026.4866           | 16 204.2611          | 134.8483             | 760.9797             | 3 554.5180           |
| 84       | 717.8274             | 3 148.2305           | 12 177.7745          | 117.1396             | 626.1314             | 2 793.5383           |
| 85       | 579.7802             | 2 430.4031           | 9 029.5440           | 100.3480             | 508.9918             | 2 167.4069           |
| 86       | 462.5454             | 1 850.6229           | 6 599.1409           | 85.19936             | 408.64378            | 1 658.41505          |
| 87       | 363.8738             | 1 388.0775           | 4 748.5180           | 71.36731             | 323.44442            | 1 249.77127          |
| 88       | 281.9083             | 1 024.2037           | 3 360.4405           | 59.06101             | 252.07711            | 926.32685            |
| 89       | 214.6363             | 742.2954             | 2 336.2368           | 48.18025             | 193.01610            | 674.24974            |
| 90       | 160.2046             | 527.6591             | 1 593.9414           | 38.49423             | 144.83585            | 481.23364            |
| 91       | 117.0442             | 367.4545             | 1 066.2823           | 30.12253             | 106.34162            | 336.39779            |
| 92       | 83.51258             | 250.41028            | 698.82783            | 22.90979             | 76.21909             | 230.05617            |
| 93       | 58.17039             | 166.89770            | 448.41755            | 16.96147             | 53.30930             | 153.83708            |
| 94       | 39.51464             | 108.72731            | 281.51985            | 12.18470             | 36.34783             | 100.52778            |
| 95       | 26.17902             | 69.21267             | 172.79254            | 8.49170              | 24.16313             | 64.17995             |
| 96       | 16.92483             | 43.03365             | 103.57987            | 5.74263              | 15.67143             | 40.01682             |
| 97       | 10.68925             | 26.10882             | 60.54622             | 3.80891              | 9.92880              | 24.34539             |
| 98       | 6.56900              | 15.41957             | 34.43740             | 2.46532              | 6.11989              | 14.41659             |
| 99       | 3.91235              | 8.85057              | 19.01783             | 1.50895              | 3.65457              | 8.29670              |
| 100      | 2.28944              | 4.93822              | 10.16726             | .95983               | 2.14562              | 4.64213              |
| 101      | 1.26293              | 2.64878              | 5.22904              | .53951               | 1.18579              | 2.49651              |
| 102      | .68664               | 1.38585              | 2.58026              | .28570               | .64628               | 1.31072              |
| 103      | .38094               | .69921               | 1.19441              | .18492               | .36058               | .66444               |
| 104      | .18492               | .31827               | .49520               | .08977               | .17566               | .30386               |
| 105      | .08977               | .13335               | .17693               | .04358               | .08589               | .12820               |
| 106      | .04358               | .04358               | .04358               | .04231               | .04231               | .04231               |

<sup>1</sup> This table appears on pages 74 and 75.

TABLE 102

COMMUTATION COLUMNS, 3½%.

WHITE FEMALES

BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.     | WHITE FEMALES.       |                      |                      |                      |                      |                      |
|----------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <i>x</i> | <i>D<sub>x</sub></i> | <i>N<sub>x</sub></i> | <i>S<sub>x</sub></i> | <i>C<sub>x</sub></i> | <i>M<sub>x</sub></i> | <i>R<sub>x</sub></i> |
| Years.   |                      |                      |                      |                      |                      |                      |
| 0        | 100 000.00           | 2 166 807.60         | 46 002 274.69        | 9 880.193            | 26 726.312           | 611 175.112          |
| 1        | 86 738.16            | 2 066 807.60         | 43 835 467.09        | 2 164.811            | 16 846.119           | 584 448.600          |
| 2        | 81 640.18            | 1 980 069.44         | 41 768 659.49        | 901.0408             | 14 681.3079          | 567 602.6815         |
| 3        | 77 978.36            | 1 898 429.26         | 39 788 590.05        | 561.2088             | 13 780.2671          | 552 921.3736         |
| 4        | 74 780.20            | 1 820 450.90         | 37 890 160.79        | 389.8336             | 13 219 0583          | 539 141.1065         |
| 5        | 71 861.57            | 1 745 670.70         | 36 069 709.89        | 310.7572             | 12 829.2247          | 525 922.0482         |
| 6        | 69 120.71            | 1 673 809.13         | 34 324 039.19        | 248.3731             | 12 518.4675          | 513 092.8235         |
| 7        | 66 534.92            | 1 604 688.42         | 32 650 230.06        | 198.9658             | 12 270.0944          | 500 574.3560         |
| 8        | 64 085.98            | 1 538 153.50         | 31 045 541.64        | 161.4208             | 12 071.1286          | 488 304.2616         |
| 9        | 61 757.40            | 1 474 067.52         | 29 507 388.14        | 134.6946             | 11 909.7078          | 476 233.1330         |
| 10       | 59 534.29            | 1 412 310.12         | 28 033 320.62        | 118.4956             | 11 775.0132          | 464 323.4252         |
| 11       | 57 402.56            | 1 352 775.83         | 26 621 010.50        | 109.8560             | 11 656.5176          | 452 548.4120         |
| 12       | 55 351.56            | 1 295 373.27         | 25 268 234.67        | 108.0593             | 11 546.6616          | 440 891.8944         |
| 13       | 53 371.70            | 1 240 021.71         | 23 972 861.40        | 111.8185             | 11 438.6023          | 429 345.2328         |
| 14       | 51 455.05            | 1 186 650.01         | 22 732 839.69        | 117.5875             | 11 326.7838          | 417 906.6305         |
| 15       | 49 597.43            | 1 135 194.96         | 21 546 189.68        | 126.8753             | 11 209.1963          | 406 579.8467         |
| 16       | 47 793.35            | 1 085 597.53         | 20 410 994.72        | 135.9577             | 11 082.3210          | 395 370.6504         |
| 17       | 46 041.19            | 1 037 804.18         | 19 325 397.19        | 144.8191             | 10 946.3633          | 384 288.3294         |
| 18       | 44 339.42            | 991 762.99           | 18 287 593.01        | 151.8855             | 10 801.5442          | 373 341.9661         |
| 19       | 42 688.14            | 947 423.57           | 17 295 830.02        | 159.8159             | 10 649.6587          | 362 540.4219         |
| 20       | 41 084.76            | 904 735.43           | 16 348 406.45        | 166.5508             | 10 489.8428          | 351 890.7632         |
| 21       | 39 528.87            | 863 650.67           | 15 443 671.02        | 171.2400             | 10 323.2920          | 341 400.9204         |
| 22       | 38 020.91            | 824 121.80           | 14 580 020.35        | 172.7018             | 10 152.0520          | 331 077.6284         |
| 23       | 36 562.47            | 786 100.89           | 13 755 898.55        | 171.6792             | 9 979.3502           | 320 925.5764         |
| 24       | 35 154.38            | 749 538.42           | 12 969 797.66        | 170.9514             | 9 807.6710           | 310 946.2262         |
| 25       | 33 794.63            | 714 384.04           | 12 220 259.24        | 170.4853             | 9 636.7196           | 301 138.5552         |
| 26       | 32 481.34            | 680 589.41           | 11 505 875.20        | 169.0652             | 9 466.2343           | 291 501.8356         |
| 27       | 31 213.87            | 648 108.07           | 10 825 285.79        | 167.1646             | 9 297.1691           | 282 035.6013         |
| 28       | 29 991.16            | 616 894.20           | 10 177 177.72        | 165.1992             | 9 130.0045           | 272 738.4322         |
| 29       | 28 811.77            | 586 903.04           | 9 560 283.52         | 163.1755             | 8 964.8053           | 263 608.4277         |
| 30       | 27 674.28            | 558 091.27           | 8 973 380.48         | 161.4440             | 8 801.6298           | 254 643.6224         |
| 31       | 26 576.99            | 530 416.99           | 8 415 289.21         | 159.6431             | 8 640.1858           | 245 841.9926         |
| 32       | 25 518.61            | 503 840.00           | 7 884 872.22         | 159.0646             | 8 480.5427           | 237 201.8068         |
| 33       | 24 496.60            | 478 321.39           | 7 381 032.22         | 158.0323             | 8 321.4781           | 228 721.2641         |
| 34       | 23 510.18            | 453 824.79           | 6 902 710.83         | 156.8879             | 8 163.4458           | 220 399.7860         |
| 35       | 22 558.26            | 430 314.61           | 6 448 886.04         | 155.3503             | 8 006.5579           | 212 236.3402         |
| 36       | 21 640.07            | 407 756.35           | 6 018 571.43         | 153.1773             | 7 851.2076           | 204 229.7823         |
| 37       | 20 755.10            | 386 116.28           | 5 610 815.08         | 150.4324             | 7 698.0303           | 196 378.5747         |
| 38       | 19 902.81            | 365 361.18           | 5 224 698.80         | 147.4367             | 7 547.5979           | 188 680.5444         |
| 39       | 19 082.33            | 345 458.37           | 4 859 337.62         | 144.4715             | 7 400.1612           | 181 132.9465         |
| 40       | 18 292.56            | 326 376.04           | 4 513 879.25         | 142.0263             | 7 255.6897           | 173 732.7853         |
| 41       | 17 531.95            | 308 083.48           | 4 187 503.21         | 140.0528             | 7 113.6634           | 166 477.0956         |
| 42       | 16 799.03            | 290 551.53           | 3 879 419.73         | 139.6450             | 6 973.6106           | 159 363.4322         |
| 43       | 16 091.30            | 273 752.50           | 3 588 868.20         | 139.7650             | 6 833.9656           | 152 389.8216         |
| 44       | 15 407.38            | 257 661.20           | 3 315 115.70         | 140.3551             | 6 694.2006           | 145 555.8560         |
| 45       | 14 746.00            | 242 253.82           | 3 057 454.50         | 141.1564             | 6 553.8455           | 138 861.6554         |
| 46       | 14 106.19            | 227 507.82           | 2 815 200.68         | 142.1401             | 6 412.6891           | 132 307.8099         |
| 47       | 13 487.03            | 213 401.63           | 2 587 692.86         | 142.5122             | 6 270.5490           | 125 895.1208         |
| 48       | 12 888.43            | 199 914.60           | 2 374 291.23         | 142.5113             | 6 128.0368           | 119 624.5718         |
| 49       | 12 310.08            | 187 026.17           | 2 174 376.63         | 142.7055             | 5 985.5255           | 113 496.5350         |
| 50       | 11 751.09            | 174 716.09           | 1 987 350.46         | 143.0697             | 5 842.8200           | 107 511.0095         |
| 51       | 11 210.64            | 162 965.00           | 1 812 634.37         | 143.7475             | 5 699.7503           | 101 668.1895         |
| 52       | 10 687.79            | 151 754.36           | 1 649 669.37         | 146.1538             | 5 556.0028           | 95 968.4392          |
| 53       | 10 180.22            | 141 066.57           | 1 497 915.01         | 149.9493             | 5 409.8490           | 90 412.4364          |
| 54       | 9 686.008            | 130 886.351          | 1 356 848.438        | 154.2256             | 5 259.8997           | 85 002.5874          |

<sup>1</sup> This table appears on pages 74 and 75.

TABLE 102

COMMUTATION COLUMNS, 3½%.

WHITE FEMALES

BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.     | WHITE FEMALES.       |                      |                      |                      |                      |                      |
|----------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <i>x</i> | <i>D<sub>x</sub></i> | <i>N<sub>x</sub></i> | <i>S<sub>x</sub></i> | <i>C<sub>x</sub></i> | <i>M<sub>x</sub></i> | <i>R<sub>x</sub></i> |
| Years.   |                      |                      |                      |                      |                      |                      |
| 55       | 9 204. 237           | 121 200. 343         | 1 225 962. 087       | 159. 3521            | 5 105. 6741          | 79 742. 6877         |
| 56       | 8 733. 630           | 111 996. 106         | 1 104 761. 744       | 164. 5184            | 4 946. 3220          | 74 637. 0136         |
| 57       | 8 273. 771           | 103 262. 476         | 992 765. 638         | 168. 0653            | 4 781. 8036          | 69 690. 6916         |
| 58       | 7 825. 917           | 94 988. 705          | 889 503. 162         | 170. 2646            | 4 613. 7383          | 64 908. 8880         |
| 59       | 7 391. 008           | 87 162. 788          | 794 514. 457         | 172. 3768            | 4 443. 4737          | 60 295. 1497         |
| 60       | 6 968. 694           | 79 771. 780          | 707 351. 669         | 173. 9061            | 4 271. 0969          | 55 851. 6760         |
| 61       | 6 559. 131           | 72 803. 086          | 627 579. 889         | 175. 7274            | 4 097. 1908          | 51 580. 5791         |
| 62       | 6 161. 597           | 66 243. 955          | 554 776. 803         | 178. 4860            | 3 921. 4634          | 47 483. 3883         |
| 63       | 5 774. 748           | 60 082. 358          | 488 532. 848         | 181. 4101            | 3 742. 9774          | 43 561. 9249         |
| 64       | 5 398. 056           | 54 307. 610          | 428 450. 490         | 183. 1842            | 3 561. 5673          | 39 818. 9475         |
| 65       | 5 032. 329           | 48 909. 554          | 374 142. 880         | 184. 1146            | 3 378. 3831          | 36 257. 3802         |
| 66       | 4 678. 039           | 43 877. 225          | 325 233. 326         | 184. 5731            | 3 194. 2685          | 32 878. 9971         |
| 67       | 4 335. 272           | 39 199. 186          | 281 356. 101         | 185. 0791            | 3 009. 6954          | 29 684. 7286         |
| 68       | 4 003. 589           | 34 863. 914          | 242 156. 915         | 185. 5262            | 2 824. 6163          | 26 675. 0332         |
| 69       | 3 682. 676           | 30 860. 325          | 207 293. 001         | 185. 2814            | 2 639. 0901          | 23 850. 4169         |
| 70       | 3 372. 860           | 27 177. 649          | 176 432. 676         | 184. 5802            | 2 453. 8087          | 21 211. 3268         |
| 71       | 3 074. 221           | 23 804. 789          | 149 255. 027         | 182. 5385            | 2 269. 2285          | 18 757. 5181         |
| 72       | 2 787. 724           | 20 730. 568          | 125 450. 238         | 178. 6383            | 2 086. 6900          | 16 488. 2896         |
| 73       | 2 514. 814           | 17 942. 844          | 104 719. 670         | 173. 2247            | 1 908. 0517          | 14 401. 5996         |
| 74       | 2 256. 548           | 15 428. 030          | 86 776. 826          | 167. 2153            | 1 734. 8270          | 12 493. 5479         |
| 75       | 2 013. 024           | 13 171. 482          | 71 348. 796          | 160. 4626            | 1 567. 6117          | 10 758. 7209         |
| 76       | 1 784. 488           | 11 158. 458          | 58 177. 314          | 153. 2682            | 1 407. 1491          | 9 191. 1092          |
| 77       | 1 570. 875           | 9 373. 970           | 47 018. 856          | 145. 8301            | 1 253. 8809          | 7 783. 9601          |
| 78       | 1 371. 924           | 7 803. 095           | 37 644. 886          | 138. 3897            | 1 108. 0508          | 6 530. 0792          |
| 79       | 1 187. 140           | 6 431. 171           | 29 841. 791          | 130. 8391            | 969. 6611            | 5 422. 0284          |
| 80       | 1 016. 156           | 5 244. 031           | 23 410. 620          | 123. 5178            | 838. 8220            | 4 452. 3673          |
| 81       | 858. 2759            | 4 227. 8746          | 18 166. 5894         | 114. 5767            | 715. 3042            | 3 613. 5453          |
| 82       | 714. 6753            | 3 369. 5987          | 13 938. 7148         | 102. 9346            | 600. 7275            | 2 898. 2411          |
| 83       | 587. 5730            | 2 654. 9234          | 10 569. 1161         | 89. 78072            | 497. 79288           | 2 297. 51356         |
| 84       | 477. 9225            | 2 067. 3504          | 7 914. 1927          | 77. 61365            | 408. 01216           | 1 799. 72068         |
| 85       | 384. 1473            | 1 589. 4279          | 5 846. 8423          | 66. 16680            | 330. 39851           | 1 391. 70852         |
| 86       | 304. 9900            | 1 205. 2806          | 4 257. 4144          | 55. 90677            | 264. 23171           | 1 061. 31001         |
| 87       | 238. 7695            | 900. 2906            | 3 052. 1338          | 46. 60412            | 208. 32494           | 797. 07830           |
| 88       | 184. 0911            | 661. 5211            | 2 151. 8432          | 38. 38157            | 161. 72082           | 588. 75336           |
| 89       | 139. 4842            | 477. 4300            | 1 490. 3221          | 31. 15930            | 123. 33925           | 427. 03254           |
| 90       | 103. 6081            | 337. 9458            | 1 012. 8921          | 24. 77486            | 92. 17995            | 303. 69329           |
| 91       | 75. 32956            | 234. 33768           | 674. 94628           | 19. 29319            | 67. 40509            | 211. 51334           |
| 92       | 53. 48899            | 159. 00812           | 440. 60860           | 14. 60261            | 48. 11190            | 144. 10825           |
| 93       | 37. 07757            | 105. 51913           | 281. 60048           | 10. 75895            | 33. 50929            | 95. 99635            |
| 94       | 25. 06480            | 68. 44156            | 176. 08135           | 7. 69162             | 22. 75034            | 62. 48706            |
| 95       | 16. 52557            | 43. 37676            | 107. 63979           | 5. 33451             | 15. 05872            | 39. 73672            |
| 96       | 10. 63223            | 26. 85119            | 64. 26303            | 3. 59011             | 9. 72421             | 24. 67800            |
| 97       | 6. 68258             | 16. 21896            | 37. 41184            | 2. 36971             | 6. 13410             | 14. 95379            |
| 98       | 4. 08689             | 9. 53638             | 21. 19288            | 1. 52638             | 3. 76439             | 8. 81969             |
| 99       | 2. 42230             | 5. 44949             | 11. 65650            | . 92974              | 2. 23801             | 5. 05530             |
| 100      | 1. 41064             | 3. 02719             | 6. 20701             | . 58854              | 1. 30827             | 2. 81729             |
| 101      | . 77440              | 1. 61655             | 3. 17982             | . 32921              | . 71973              | 1. 50902             |
| 102      | . 41900              | . 84215              | 1. 56327             | . 17350              | . 39052              | . 78929              |
| 103      | . 23133              | . 42315              | . 72112              | . 11175              | . 21702              | . 39877              |
| 104      | . 11175              | . 19182              | . 29797              | . 05399              | . 10527              | . 18175              |
| 105      | . 05399              | . 08007              | . 10615              | . 02608              | . 05128              | . 07648              |
| 106      | . 02608              | . 02608              | . 02608              | . 02520              | . 02520              | . 02520              |

<sup>1</sup> This table appears on pages 74 and 75.

TABLE 103

COMMUTATION COLUMNS, 4%.

WHITE FEMALES

BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.   | WHITE FEMALES. |              |               |           |             |              |
|--------|----------------|--------------|---------------|-----------|-------------|--------------|
| $x$    | $D_x$          | $N_x$        | $S_x$         | $C_x$     | $M_x$       | $R_x$        |
| Years. |                |              |               |           |             |              |
| 0      | 100 000.00     | 1 972 309.08 | 39 093 971.56 | 9 832.692 | 24 141.958  | 468 694.802  |
| 1      | 86 321.15      | 1 872 309.08 | 37 121 662.48 | 2 144.046 | 14 309.266  | 444 552.844  |
| 2      | 80 857.06      | 1 785 987.93 | 35 249 353.40 | 888.1074  | 12 165.2198 | 430 243.5780 |
| 3      | 76 859.07      | 1 705 130.87 | 33 463 365.47 | 550.4939  | 11 277.1124 | 418 078.3582 |
| 4      | 73 352.46      | 1 628 271.80 | 31 758 234.60 | 380.5523  | 10 726.6185 | 406 801.2458 |
| 5      | 70 150.66      | 1 554 919.34 | 30 129 962.80 | 301.9002  | 10 346.0662 | 396 074.6273 |
| 6      | 67 150.65      | 1 484 768.68 | 28 575 043.46 | 240.1340  | 10 044.1660 | 385 728.5611 |
| 7      | 64 327.80      | 1 417 618.03 | 27 090 274.78 | 191.4408  | 9 804.0320  | 375 684.3951 |
| 8      | 61 662.22      | 1 353 290.23 | 25 672 656.75 | 154.5691  | 9 612.5912  | 365 880.3631 |
| 9      | 59 136.02      | 1 291 628.01 | 24 319 366.52 | 128.3572  | 9 458.0221  | 356 267.7719 |
| 10     | 56 733.20      | 1 232 491.99 | 23 027 738.51 | 112.3775  | 9 329.6649  | 346 809.7498 |
| 11     | 54 438.78      | 1 175 758.79 | 21 795 246.52 | 103.6831  | 9 217.2874  | 337 480.0849 |
| 12     | 52 241.30      | 1 121 320.01 | 20 619 487.73 | 101.4970  | 9 113.6043  | 328 262.7975 |
| 13     | 50 130.52      | 1 069 078.71 | 19 498 167.72 | 104.5230  | 9 012.1073  | 319 149.1932 |
| 14     | 48 097.90      | 1 018 948.19 | 18 429 089.01 | 109.3871  | 8 907.5843  | 310 137.0859 |
| 15     | 46 138.59      | 970 850.29   | 17 410 140.82 | 117.4598  | 8 798.1972  | 301 229.5016 |
| 16     | 44 246.57      | 924 711.70   | 16 439 290.53 | 125.2631  | 8 680.7374  | 292 421.3044 |
| 17     | 42 419.52      | 880 465.13   | 15 514 578.83 | 132.7860  | 8 555.4743  | 283 750.5670 |
| 18     | 40 655.21      | 838 045.61   | 14 634 113.70 | 138.5956  | 8 422.6883  | 275 195.0927 |
| 19     | 38 952.95      | 797 390.40   | 13 796 068.09 | 145.1311  | 8 284.0927  | 266 772.4044 |
| 20     | 37 309.63      | 758 437.45   | 12 998 677.69 | 150.5199  | 8 138.9616  | 258 488.3117 |
| 21     | 35 724.13      | 721 127.82   | 12 240 240.24 | 154.0137  | 7 988.4417  | 250 349.3501 |
| 22     | 34 196.11      | 685 403.69   | 11 519 112.42 | 154.5817  | 7 834.4280  | 242 360.9084 |
| 23     | 32 726.29      | 651 207.58   | 10 833 708.73 | 152.9276  | 7 679.8463  | 234 526.4804 |
| 24     | 31 314.66      | 618 481.29   | 10 182 501.15 | 151.5472  | 7 526.9187  | 226 846.6341 |
| 25     | 29 958.70      | 587 166.63   | 9 564 019.86  | 150.4074  | 7 375.3715  | 219 319.7154 |
| 26     | 28 656.04      | 557 207.93   | 8 976 853.23  | 148.4375  | 7 224.9641  | 211 944.3439 |
| 27     | 27 405.45      | 528 551.89   | 8 419 645.30  | 146.0631  | 7 076.5266  | 204 719.3798 |
| 28     | 26 205.33      | 501 146.44   | 7 891 093.41  | 143.6518  | 6 930.4635  | 197 642.8532 |
| 29     | 25 053.78      | 474 941.11   | 7 389 946.97  | 141.2100  | 6 786.8117  | 190 712.3897 |
| 30     | 23 948.96      | 449 887.33   | 6 915 005.86  | 139.0399  | 6 645.6017  | 183 925.5780 |
| 31     | 22 888.81      | 425 938.37   | 6 465 118.53  | 136.8278  | 6 506.5618  | 177 279.9763 |
| 32     | 21 871.64      | 403 049.56   | 6 039 180.16  | 135.6766  | 6 369.7340  | 170 773.4145 |
| 33     | 20 894.75      | 381 177.92   | 5 636 130.60  | 134.1480  | 6 234.0574  | 164 403.6805 |
| 34     | 19 956.95      | 360 283.17   | 5 254 952.68  | 132.5363  | 6 099.9094  | 158 169.6231 |
| 35     | 19 056.84      | 340 326.22   | 4 894 669.51  | 130.6064  | 5 967.3731  | 152 069.7137 |
| 36     | 18 193.28      | 321 269.38   | 4 554 343.29  | 128.1604  | 5 836.7667  | 146 102.3406 |
| 37     | 17 365.38      | 303 076.10   | 4 233 073.91  | 125.2587  | 5 708.6063  | 140 265.5739 |
| 38     | 16 572.22      | 285 710.72   | 3 929 997.81  | 122.1740  | 5 583.3476  | 134 556.9676 |
| 39     | 15 812.65      | 269 138.50   | 3 644 287.09  | 119.1413  | 5 461.1736  | 128 973.6200 |
| 40     | 15 085.33      | 253 325.85   | 3 375 148.59  | 116.5618  | 5 342.0323  | 123 512.4464 |
| 41     | 14 388.57      | 238 240.52   | 3 121 822.74  | 114.3895  | 5 225.4705  | 118 170.4141 |
| 42     | 13 720.77      | 223 851.95   | 2 883 582.22  | 113.5081  | 5 111.0810  | 112 944.9436 |
| 43     | 13 079.54      | 210 131.18   | 2 659 730.27  | 113.0594  | 4 997.5729  | 107 833.8626 |
| 44     | 12 463.42      | 197 051.64   | 2 449 599.09  | 112.9910  | 4 884.5135  | 102 836.2897 |
| 45     | 11 871.07      | 184 588.22   | 2 252 547.45  | 113.0897  | 4 771.5225  | 97 951.7762  |
| 46     | 11 301.40      | 172 717.15   | 2 067 959.23  | 113.3303  | 4 658.4328  | 93 180.2537  |
| 47     | 10 753.40      | 161 415.75   | 1 895 242.08  | 113.0807  | 4 545.1025  | 88 521.8209  |
| 48     | 10 226.73      | 150 662.35   | 1 733 826.33  | 112.5363  | 4 432.0218  | 83 976.7184  |
| 49     | 9 720.855      | 140 435.617  | 1 583 163.983 | 112.1480  | 4 319.4855  | 79 544.6966  |
| 50     | 9 234.829      | 130 714.762  | 1 442 728.366 | 111.8936  | 4 207.3375  | 75 225.2111  |
| 51     | 8 767.749      | 121 479.933  | 1 312 013.604 | 111.8832  | 4 095.4439  | 71 017.8736  |
| 52     | 8 318.644      | 112 712.184  | 1 190 533.671 | 113.2092  | 3 983.5607  | 66 922.4297  |
| 53     | 7 885.487      | 104 393.540  | 1 077 821.487 | 115.5907  | 3 870.3515  | 62 938.8690  |
| 54     | 7 466.609      | 96 508.053   | 973 427.947   | 118.3156  | 3 754.7608  | 59 068.5175  |

<sup>1</sup> This table appears on pages 74 and 75.

TABLE 103

COMMUTATION COLUMNS, 4%.

WHITE FEMALES

BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.   | WHITE FEMALES. |            |             |          |            |             |
|--------|----------------|------------|-------------|----------|------------|-------------|
| $x$    | $D_x$          | $N_x$      | $S_x$       | $C_x$    | $M_x$      | $R_x$       |
| Years. |                |            |             |          |            |             |
| 55     | 7 061.116      | 89 041.444 | 876 919.894 | 121.6607 | 3 636.4452 | 55 313.7567 |
| 56     | 6 667.874      | 81 980.328 | 787 878.450 | 125.0012 | 3 514.7845 | 51 677.3115 |
| 57     | 6 286.416      | 75 312.454 | 705 898.122 | 127.0822 | 3 389.7833 | 48 162.5270 |
| 58     | 5 917.549      | 69 026.038 | 630 585.668 | 128.1262 | 3 262.7011 | 44 772.7437 |
| 59     | 5 561.825      | 63 108.489 | 561 559.630 | 129.0920 | 3 134.5749 | 41 510.0426 |
| 60     | 5 218.816      | 57 546.664 | 498 451.141 | 129.6112 | 3 005.4829 | 38 375.4677 |
| 61     | 4 888.481      | 52 327.848 | 440 904.477 | 130.3389 | 2 875.8717 | 35 369.9848 |
| 62     | 4 570.123      | 47 439.367 | 388 576.629 | 131.7485 | 2 745.5328 | 32 494.1131 |
| 63     | 4 262.601      | 42 869.244 | 341 137.262 | 133.2632 | 2 613.7843 | 29 748.5803 |
| 64     | 3 965.392      | 38 606.643 | 298 268.018 | 133.9195 | 2 480.5211 | 27 134.7960 |
| 65     | 3 678.957      | 34 641.251 | 259 661.375 | 133.9525 | 2 346.6016 | 24 654.2749 |
| 66     | 3 403.507      | 30 962.294 | 225 020.124 | 133.6405 | 2 212.6491 | 22 307.6733 |
| 67     | 3 138.962      | 27 558.787 | 194 057.830 | 133.3626 | 2 079.0086 | 20 095.0242 |
| 68     | 2 884.870      | 24 419.825 | 166 499.043 | 133.0421 | 1 945.6460 | 18 016.0156 |
| 69     | 2 640.871      | 21 534.955 | 142 079.218 | 132.2277 | 1 812.6039 | 16 070.3696 |
| 70     | 2 407.072      | 18 894.084 | 120 544.263 | 131.0940 | 1 680.3762 | 14 257.7657 |
| 71     | 2 183.398      | 16 487.012 | 101 650.179 | 129.0207 | 1 549.2822 | 12 577.3895 |
| 72     | 1 970.400      | 14 303.614 | 85 163.167  | 125.6569 | 1 420.2615 | 11 028.1073 |
| 73     | 1 768.959      | 12 333.214 | 70 859.553  | 121.2631 | 1 294.6046 | 9 607.8458  |
| 74     | 1 579.659      | 10 564.255 | 58 526.339  | 116.4936 | 1 173.3415 | 8 313.2412  |
| 75     | 1 402.409      | 8 984.596  | 47 962.084  | 111.2517 | 1 056.8479 | 7 139.8997  |
| 76     | 1 237.219      | 7 582.187  | 38 977.488  | 105.7528 | 945.5962   | 6 083.0518  |
| 77     | 1 083.881      | 6 344.968  | 31 395.301  | 100.1369 | 839.8434   | 5 137.4556  |
| 78     | 942.0561       | 5 261.0867 | 25 050.3331 | 94.57089 | 739.70652  | 4 297.61216 |
| 79     | 811.2522       | 4 319.0306 | 19 789.2464 | 88.98126 | 645.13563  | 3 557.90564 |
| 80     | 691.0690       | 3 507.7784 | 15 470.2158 | 83.59826 | 556.15437  | 2 912.77001 |
| 81     | 580.8911       | 2 816.7094 | 11 962.4374 | 77.17405 | 472.55611  | 2 356.61564 |
| 82     | 481.3751       | 2 235.8183 | 9 145.7280  | 68.99906 | 395.38206  | 1 884.05953 |
| 83     | 393.8616       | 1 754.4432 | 6 909.9097  | 59.80244 | 326.38300  | 1 488.67747 |
| 84     | 318.8206       | 1 360.5816 | 5 155.4665  | 51.52689 | 266.49056  | 1 162.29447 |
| 85     | 255.0314       | 1 041.7610 | 3 794.8849  | 43.71626 | 214.96367  | 895.80391   |
| 86     | 201.5062       | 786.7296   | 2 753.1239  | 36.75990 | 171.24741  | 680.84024   |
| 87     | 156.9961       | 585.2234   | 1 966.3943  | 30.49588 | 134.48751  | 509.59283   |
| 88     | 120.4619       | 428.2273   | 1 381.1709  | 24.99463 | 103.99163  | 375.10532   |
| 89     | 90.83413       | 307.76535  | 952.94360   | 20.19383 | 78.99700   | 271.11369   |
| 90     | 67.14669       | 216.93122  | 645.17825   | 15.97898 | 58.80317   | 192.11669   |
| 91     | 48.58513       | 149.78453  | 428.24703   | 12.38366 | 42.82419   | 133.31352   |
| 92     | 34.33281       | 101.19940  | 278.46250   | 9.32787  | 30.44053   | 90.48933    |
| 93     | 23.68445       | 66.86659   | 177.26310   | 6.83957  | 21.11266   | 60.04880    |
| 94     | 15.93394       | 43.18214   | 110.39651   | 4.86614  | 14.27309   | 38.93614    |
| 95     | 10.45496       | 27.24820   | 67.21437    | 3.35867  | 9.40695    | 24.66305    |
| 96     | 6.69418        | 16.79324   | 39.96617    | 2.24951  | 6.04828    | 15.25610    |
| 97     | 4.18720        | 10.09906   | 23.17293    | 1.47768  | 3.79877    | 9.20782     |
| 98     | 2.54847        | 5.91186    | 13.07387    | .94723   | 2.32109    | 5.40905     |
| 99     | 1.50322        | 3.36339    | 7.16201     | .57420   | 1.37386    | 3.08796     |
| 100    | .87120         | 1.86017    | 3.79862     | .36173   | .79966     | 1.71410     |
| 101    | .47596         | .98897     | 1.93845     | .20137   | .43793     | .91444      |
| 102    | .25629         | .51301     | .94948      | .10561   | .23656     | .47651      |
| 103    | .14082         | .25672     | .43647      | .06770   | .13095     | .23995      |
| 104    | .06770         | .11590     | .17975      | .03255   | .06325     | .10900      |
| 105    | .03255         | .04820     | .06385      | .01565   | .03070     | .04575      |
| 106    | .01565         | .01565     | .01565      | .01505   | .01505     | .01505      |

<sup>1</sup> This table appears on pages 74 and 75.

TABLE 104

COMMUTATION COLUMNS, 5%.

WHITE FEMALES

BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.     | WHITE FEMALES.       |                      |                      |                      |                      |                      |
|----------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <i>x</i> | <i>D<sub>x</sub></i> | <i>N<sub>x</sub></i> | <i>S<sub>x</sub></i> | <i>C<sub>x</sub></i> | <i>M<sub>x</sub></i> | <i>R<sub>x</sub></i> |
| Years.   |                      |                      |                      |                      |                      |                      |
| 0        | 100 000.00           | 1 667 172.65         | 28 978 991.97        | 9 739.048            | 20 610.825           | 287 220.646          |
| 1        | 85 499.05            | 1 567 172.65         | 27 311 819.32        | 2 103.401            | 10 871.777           | 266 609.821          |
| 2        | 79 324.26            | 1 481 673.60         | 25 744 646.67        | 862.9738             | 8 768.3761           | 255 738.0439         |
| 3        | 74 683.94            | 1 402 349.34         | 24 262 973.07        | 529.8204             | 7 905.4023           | 246 969.6678         |
| 4        | 70 597.74            | 1 327 665.40         | 22 860 623.73        | 362.7726             | 7 375.5819           | 239 064.2655         |
| 5        | 66 873.18            | 1 257 067.66         | 21 532 958.33        | 285.0543             | 7 012.8093           | 231 688.6836         |
| 6        | 63 403.68            | 1 190 194.48         | 20 275 890.67        | 224.5753             | 6 727.7550           | 224 675.8743         |
| 7        | 60 159.89            | 1 126 790.80         | 19 085 696.19        | 177.3319             | 6 503.1797           | 217 948.1193         |
| 8        | 57 117.80            | 1 066 630.91         | 17 958 905.39        | 141.8140             | 6 325.8478           | 211 444.9396         |
| 9        | 54 256.09            | 1 009 513.11         | 16 892 274.48        | 116.6435             | 6 184.0338           | 205 119.0918         |
| 10       | 51 555.82            | 955 257.02           | 15 882 761.37        | 101.1495             | 6 067.3903           | 198 935.0580         |
| 11       | 48 999.63            | 903 701.20           | 14 927 504.35        | 92.4350              | 5 966.2408           | 192 867.6677         |
| 12       | 46 573.88            | 854 701.57           | 14 023 803.15        | 89.6243              | 5 873.8058           | 186 901.4269         |
| 13       | 44 266.45            | 808 127.69           | 13 169 101.58        | 91.4173              | 5 784.1815           | 181 027.6211         |
| 14       | 42 067.11            | 763 861.24           | 12 360 973.89        | 94.7604              | 5 692.7642           | 175 243.4396         |
| 15       | 39 969.15            | 721 794.13           | 11 597 112.65        | 100.7845             | 5 598.0038           | 169 550.6754         |
| 16       | 37 965.08            | 681 824.98           | 10 875 318.52        | 106.4564             | 5 497.2193           | 163 952.6716         |
| 17       | 36 050.76            | 643 859.90           | 10 193 493.54        | 111.7751             | 5 390.7629           | 158 455.4523         |
| 18       | 34 222.28            | 607 809.14           | 9 549 633.64         | 115.5543             | 5 278.9878           | 153 064.6894         |
| 19       | 32 477.09            | 573 586.86           | 8 941 824.50         | 119.8509             | 5 163.4335           | 147 785.7016         |
| 20       | 30 810.71            | 541 109.77           | 8 368 237.64         | 123.1172             | 5 043.5826           | 142 622.2681         |
| 21       | 29 220.42            | 510 299.06           | 7 827 127.87         | 124.7752             | 4 920.4654           | 137 578.6855         |
| 22       | 27 704.20            | 481 078.64           | 7 316 828.81         | 124.0427             | 4 795.6902           | 132 658.2201         |
| 23       | 26 260.91            | 453 374.44           | 6 835 750.17         | 121.5466             | 4 671.6475           | 127 862.5299         |
| 24       | 24 888.84            | 427 113.53           | 6 382 375.73         | 119.3023             | 4 550.1009           | 123 190.8824         |
| 25       | 23 584.36            | 402 224.69           | 5 955 262.20         | 117.2774             | 4 430.7986           | 118 640.7815         |
| 26       | 22 344.01            | 378 640.33           | 5 553 037.51         | 114.6391             | 4 313.5212           | 114 209.9829         |
| 27       | 21 165.37            | 356 296.32           | 5 174 397.18         | 111.7310             | 4 198.8821           | 109 896.4617         |
| 28       | 20 045.77            | 335 130.95           | 4 818 100.86         | 108.8400             | 4 087.1511           | 105 697.5796         |
| 29       | 18 982.37            | 315 085.18           | 4 482 969.91         | 105.9709             | 3 978.3111           | 101 610.4285         |
| 30       | 17 972.47            | 296 102.81           | 4 167 884.73         | 103.3486             | 3 872.3402           | 97 632.1174          |
| 31       | 17 013.29            | 278 130.34           | 3 871 781.92         | 100.7358             | 3 768.9916           | 93 759.7772          |
| 32       | 16 102.40            | 261 117.05           | 3 593 651.58         | 98.93691             | 3 668.25584          | 89 990.78555         |
| 33       | 15 236.68            | 245 014.65           | 3 332 534.53         | 96.89059             | 3 569.31893          | 86 322.52971         |
| 34       | 14 414.24            | 229 777.97           | 3 087 519.88         | 94.81482             | 3 472.42834          | 82 753.21078         |
| 35       | 13 633.03            | 215 363.73           | 2 857 741.91         | 92.54437             | 3 377.61352          | 79 280.78244         |
| 36       | 12 891.29            | 201 730.70           | 2 642 378.18         | 89.94629             | 3 285.06915          | 75 903.16892         |
| 37       | 12 187.48            | 188 839.41           | 2 440 647.48         | 87.07258             | 3 195.12286          | 72 618.09977         |
| 38       | 11 520.05            | 176 651.93           | 2 251 808.07         | 84.11946             | 3 108.05028          | 69 422.97691         |
| 39       | 10 887.35            | 165 131.88           | 2 075 156.14         | 81.25013             | 3 023.93082          | 66 314.92663         |
| 40       | 10 287.66            | 154 244.53           | 1 910 024.26         | 78.73389             | 2 942.68069          | 63 290.99581         |
| 41       | 9 719.036            | 143 956.874          | 1 755 779.733        | 76.53073             | 2 863.94680          | 60 348.31512         |
| 42       | 9 179.694            | 134 237.838          | 1 611 822.859        | 75.21780             | 2 787.41607          | 57 484.36832         |
| 43       | 8 667.348            | 125 058.144          | 1 477 585.021        | 74.20694             | 2 712.19827          | 54 696.95225         |
| 44       | 8 180.410            | 116 390.796          | 1 352 526.877        | 73.45570             | 2 637.99133          | 51 984.75398         |
| 45       | 7 717.411            | 108 210.386          | 1 236 136.081        | 72.81972             | 2 564.53563          | 49 346.76265         |
| 46       | 7 277.096            | 100 492.975          | 1 127 925.695        | 72.27963             | 2 491.71591          | 46 782.22702         |
| 47       | 6 858.287            | 93 215.879           | 1 027 432.720        | 71.43359             | 2 419.43628          | 44 230.51111         |
| 48       | 6 460.269            | 86 357.592           | 934 216.841          | 70.41265             | 2 348.00269          | 41 871.07483         |
| 49       | 6 082.224            | 79 897.323           | 847 859.249          | 69.50137             | 2 277.59004          | 39 523.07214         |
| 50       | 5 723.094            | 73 815.099           | 767 961.926          | 68.68332             | 2 208.08867          | 37 245.48210         |
| 51       | 5 381.882            | 68 092.005           | 694 146.827          | 68.02286             | 2 139.40535          | 35 037.39343         |
| 52       | 5 057.579            | 62 710.123           | 626 054.822          | 68.17352             | 2 071.38249          | 32 897.98808         |
| 53       | 4 748.568            | 57 652.544           | 563 344.699          | 68.94475             | 2 003.20897          | 30 826.60559         |
| 54       | 4 453.501            | 52 903.976           | 505 692.155          | 69.89791             | 1 934.26422          | 28 823.39662         |

<sup>1</sup> This table appears on pages 74 and 75.



TABLE 104

COMMUTATION COLUMNS, 5%.

WHITE FEMALES

BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.     | WHITE FEMALES.       |                      |                      |                      |                      |                      |
|----------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <i>x</i> | <i>D<sub>x</sub></i> | <i>N<sub>x</sub></i> | <i>S<sub>x</sub></i> | <i>C<sub>x</sub></i> | <i>M<sub>x</sub></i> | <i>R<sub>x</sub></i> |
| Years.   |                      |                      |                      |                      |                      |                      |
| 55       | 4 171.532            | 48 450.475           | 452 788.179          | 71.18960             | 1 864.36631          | 26 889.13240         |
| 56       | 3 901.698            | 44 278.943           | 404 337.704          | 72.44768             | 1 793.17671          | 25 024.76609         |
| 57       | 3 643.455            | 40 377.245           | 360 058.761          | 72.95232             | 1 720.72903          | 23 231.58938         |
| 58       | 3 397.005            | 36 733.790           | 319 681.516          | 72.85114             | 1 647.77671          | 21 510.86035         |
| 59       | 3 162.392            | 33 336.785           | 282 947.726          | 72.70124             | 1 574.92557          | 19 863.08364         |
| 60       | 2 939.100            | 30 174.393           | 249 610.941          | 72.29845             | 1 502.22433          | 18 288.15807         |
| 61       | 2 726.844            | 27 235.293           | 219 436.548          | 72.01196             | 1 429.92588          | 16 785.93374         |
| 62       | 2 524.983            | 24 508.449           | 192 201.255          | 72.09751             | 1 357.91392          | 15 356.00786         |
| 63       | 2 332.648            | 21 983.466           | 167 692.806          | 72.23185             | 1 285.81641          | 13 998.09394         |
| 64       | 2 149.338            | 19 650.818           | 145 709.340          | 71.89627             | 1 213.58456          | 12 712.27753         |
| 65       | 1 975.092            | 17 501.480           | 126 058.522          | 71.22912             | 1 141.68829          | 11 498.69297         |
| 66       | 1 809.811            | 15 526.388           | 108 557.042          | 70.38640             | 1 070.45917          | 10 357.00468         |
| 67       | 1 653.243            | 13 716.577           | 93 030.654           | 69.57110             | 1 000.07277          | 9 286.54551          |
| 68       | 1 504.946            | 12 063.334           | 79 314.077           | 68.74288             | 930.50167            | 8 286.47274          |
| 69       | 1 364.539            | 10 558.388           | 67 250.743           | 67.67144             | 861.75879            | 7 355.97107          |
| 70       | 1 231.890            | 9 193.849            | 56 692.355           | 66.45226             | 794.08735            | 6 494.21228          |
| 71       | 1 106.776            | 7 961.959            | 47 498.506           | 64.77839             | 727.63509            | 5 700.12493          |
| 72       | 989.2939             | 6 855.1831           | 39 536.5470          | 62.48866             | 662.85670            | 4 972.48984          |
| 73       | 879.6961             | 5 865.8892           | 32 681.3639          | 59.72933             | 600.36804            | 4 309.63314          |
| 74       | 778.0766             | 4 986.1931           | 26 815.4747          | 56.83356             | 540.63871            | 3 709.26510          |
| 75       | 684.1916             | 4 208.1165           | 21 829.2816          | 53.75933             | 483.80515            | 3 168.62639          |
| 76       | 597.8518             | 3 523.9249           | 17 621.1651          | 50.61542             | 430.04582            | 2 684.82124          |
| 77       | 518.7672             | 2 926.0731           | 14 097.2402          | 47.47109             | 379.43040            | 2 254.77542          |
| 78       | 446.5930             | 2 407.3059           | 11 171.1671          | 44.40548             | 331.95931            | 1 875.34502          |
| 79       | 380.9210             | 1 960.7129           | 8 763.8612           | 41.38299             | 287.55383            | 1 543.38571          |
| 80       | 321.3991             | 1 579.7919           | 6 803.1483           | 38.50920             | 246.17084            | 1 255.83188          |
| 81       | 267.5852             | 1 258.3928           | 5 223.3564           | 35.21134             | 207.66164            | 1 009.66104          |
| 82       | 219.6316             | 990.8076             | 3 964.9636           | 31.18161             | 172.45030            | 801.99940            |
| 83       | 177.9914             | 771.1760             | 2 974.1560           | 26.80843             | 141.26869            | 629.54910            |
| 84       | 142.7072             | 593.1846             | 2 202.9800           | 22.84428             | 114.46026            | 488.28041            |
| 85       | 113.0673             | 450.4774             | 1 609.7954           | 19.19687             | 91.61598             | 373.82015            |
| 86       | 88.48629             | 337.41010            | 1 159.31796          | 15.98843             | 72.41911             | 282.20417            |
| 87       | 68.28122             | 248.92381            | 821.90786            | 13.13762             | 56.43068             | 209.78506            |
| 88       | 51.89497             | 180.63959            | 572.98405            | 10.66513             | 43.29306             | 153.35438            |
| 89       | 38.75865             | 128.74462            | 392.34446            | 8.53458              | 32.62793             | 110.06132            |
| 90       | 28.37841             | 89.98597             | 263.59984            | 6.68893              | 24.09335             | 77.43339             |
| 91       | 20.33813             | 61.60756             | 173.61387            | 5.13453              | 17.40442             | 53.34004             |
| 92       | 14.23513             | 41.26943             | 112.00631            | 3.83070              | 12.26989             | 35.93562             |
| 93       | 9.72655              | 27.03430             | 70.73688             | 2.78207              | 8.43919              | 23.66573             |
| 94       | 6.48131              | 17.30775             | 43.70258             | 1.96050              | 5.65712              | 15.22654             |
| 95       | 4.21217              | 10.82644             | 26.39483             | 1.34028              | 3.69662              | 9.56942              |
| 96       | 2.67132              | 6.61427              | 15.56839             | .88912               | 2.35634              | 5.87280              |
| 97       | 1.65499              | 3.94295              | 8.95412              | .57849               | 1.46722              | 3.51646              |
| 98       | .99769               | 2.28796              | 5.01117              | .36730               | .88873               | 2.04924              |
| 99       | .58288               | 1.29027              | 2.72321              | .22053               | .52143               | 1.16051              |
| 100      | .33460               | .70739               | 1.43294              | .13761               | .30090               | .63908               |
| 101      | .18106               | .37279               | .72555               | .07587               | .16329               | .33818               |
| 102      | .09657               | .19173               | .35276               | .03941               | .08742               | .17489               |
| 103      | .05255               | .09516               | .16103               | .02502               | .04801               | .08747               |
| 104      | .02502               | .04261               | .06587               | .01192               | .02299               | .03946               |
| 105      | .01192               | .01759               | .02326               | .00567               | .01107               | .01647               |
| 106      | .00567               | .00567               | .00567               | .00540               | .00540               | .00540               |

<sup>1</sup> This table appears on pages 74 and 75.

TABLE 105

COMMUTATION COLUMNS, 6%.

WHITE FEMALES

BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.     | WHITE FEMALES.       |                      |                      |                      |                      |                      |
|----------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <i>x</i> | <i>D<sub>x</sub></i> | <i>N<sub>x</sub></i> | <i>S<sub>x</sub></i> | <i>C<sub>x</sub></i> | <i>M<sub>x</sub></i> | <i>R<sub>x</sub></i> |
| Years.   |                      |                      |                      |                      |                      |                      |
| 0        | 100 000.00           | 1 441 420.18         | 22 171 083.68        | 9 647.170            | 18 410.180           | 186 453.196          |
| 1        | 84 692.45            | 1 341 420.18         | 20 729 663.50        | 2 063.902            | 8 763.010            | 168 043.016          |
| 2        | 77 834.64            | 1 256 727.73         | 19 388 243.32        | 838.7797             | 6 699.1084           | 159 280.0063         |
| 3        | 72 590.12            | 1 178 893.09         | 18 131 515.59        | 510.1083             | 5 860.3287           | 152 580.8979         |
| 4        | 67 971.14            | 1 106 302.97         | 16 952 622.50        | 345.9805             | 5 350.2204           | 146 720.5692         |
| 5        | 63 777.74            | 1 038 331.83         | 15 846 319.53        | 269.2949             | 5 004.2399           | 141 370.3488         |
| 6        | 59 898.38            | 974 554.09           | 14 807 987.70        | 210.1580             | 4 734.9450           | 136 366.1089         |
| 7        | 56 297.75            | 914 655.71           | 13 833 433.61        | 164.3820             | 4 524.7870           | 131 631.1639         |
| 8        | 52 946.70            | 858 357.96           | 12 918 777.90        | 130.2177             | 4 360.4050           | 127 106.3769         |
| 9        | 49 819.50            | 805 411.26           | 12 060 419.94        | 106.0950             | 4 230.1873           | 122 745.9719         |
| 10       | 46 893.44            | 755 591.76           | 11 255 008.68        | 91.1342              | 4 124.0923           | 118 515.7846         |
| 11       | 44 147.96            | 708 698.32           | 10 499 416.92        | 82.4969              | 4 032.9581           | 114 391.6923         |
| 12       | 41 566.52            | 664 550.36           | 9 790 718.60         | 79.2338              | 3 950.4612           | 110 358.7342         |
| 13       | 39 134.46            | 622 983.84           | 9 126 168.24         | 80.0565              | 3 871.2271           | 106 408.2730         |
| 14       | 36 839.25            | 583 849.38           | 8 503 184.40         | 82.2012              | 3 791.1709           | 102 537.0456         |
| 15       | 34 671.81            | 547 010.13           | 7 919 335.02         | 86.6022              | 3 708.9697           | 98 745.8747          |
| 16       | 32 622.65            | 512 338.32           | 7 372 324.89         | 90.6129              | 3 622.3675           | 95 036.9050          |
| 17       | 30 685.47            | 479 715.67           | 6 859 986.57         | 94.2425              | 3 531.7546           | 91 414.5375          |
| 18       | 28 854.31            | 449 030.20           | 6 380 270.90         | 96.5098              | 3 437.5121           | 87 882.7829          |
| 19       | 27 124.54            | 420 175.89           | 5 931 240.70         | 99.1539              | 3 341.0023           | 84 415.2708          |
| 20       | 25 490.04            | 393 051.35           | 5 511 064.81         | 100.8953             | 3 241.8484           | 81 104.2685          |
| 21       | 23 946.31            | 367 561.31           | 5 118 013.46         | 101.2894             | 3 140.9531           | 77 862.4201          |
| 22       | 22 489.57            | 343 615.00           | 4 750 452.15         | 99.74476             | 3 039.66369          | 74 721.46702         |
| 23       | 21 116.83            | 321 125.43           | 4 406 837.15         | 96.81559             | 2 939.91893          | 71 681.80333         |
| 24       | 19 824.72            | 300 008.60           | 4 085 711.72         | 94.13145             | 2 843.10334          | 68 741.88440         |
| 25       | 18 608.44            | 280 183.88           | 3 785 703.12         | 91.66078             | 2 748.97189          | 65 898.78106         |
| 26       | 17 463.47            | 261 575.44           | 3 505 519.24         | 88.75348             | 2 657.31111          | 63 149.80917         |
| 27       | 16 386.22            | 244 111.97           | 3 243 943.80         | 85.68600             | 2 568.55763          | 60 492.49806         |
| 28       | 15 373.01            | 227 725.75           | 2 999 831.83         | 82.68142             | 2 482.87163          | 57 923.94043         |
| 29       | 14 420.16            | 212 352.74           | 2 772 106.08         | 79.74244             | 2 400.19021          | 55 441.06880         |
| 30       | 13 524.18            | 197 932.58           | 2 559 753.34         | 77.03552             | 2 320.44777          | 53 040.87859         |
| 31       | 12 681.62            | 184 408.40           | 2 361 820.76         | 74.37955             | 2 243.41225          | 50 720.43082         |
| 32       | 11 889.42            | 171 726.78           | 2 177 412.36         | 72.36218             | 2 169.03270          | 48 477.01857         |
| 33       | 11 144.07            | 159 837.36           | 2 005 685.58         | 70.19697             | 2 096.67052          | 46 307.98587         |
| 34       | 10 443.07            | 148 693.29           | 1 845 848.22         | 68.04503             | 2 026.47355          | 44 211.31535         |
| 35       | 9 783.913            | 138 250.217          | 1 697 154.926        | 65.78905             | 1 958.42852          | 42 184.84180         |
| 36       | 9 161.317            | 128 466.304          | 1 558 904.709        | 63.33887             | 1 892.63947          | 40 226.41328         |
| 37       | 8 582.243            | 119 301.987          | 1 430 438.405        | 60.73680             | 1 829.30060          | 38 333.77381         |
| 38       | 8 035.719            | 110 719.744          | 1 311 136.418        | 58.12331             | 1 768.56380          | 36 504.47321         |
| 39       | 7 522.744            | 102 684.025          | 1 200 416.674        | 55.61109             | 1 710.44049          | 34 735.90941         |
| 40       | 7 041.317            | 95 161.281           | 1 097 732.649        | 53.38049             | 1 654.82940          | 33 025.46892         |
| 41       | 6 589.372            | 88 119.964           | 1 002 571.368        | 51.39728             | 1 601.44891          | 31 370.63952         |
| 42       | 6 164.991            | 81 530.592           | 914 451.404          | 50.03896             | 1 550.05163          | 29 769.19061         |
| 43       | 5 765.990            | 75 365.601           | 832 920.812          | 48.90077             | 1 500.01267          | 28 219.13898         |
| 44       | 5 390.713            | 69 599.611           | 757 555.211          | 47.94905             | 1 451.11190          | 26 719.12631         |
| 45       | 5 037.629            | 64 208.898           | 687 955.600          | 47.08548             | 1 403.16285          | 25 268.01441         |
| 46       | 4 705.395            | 59 171.269           | 623 746.702          | 46.29535             | 1 356.07737          | 23 864.85156         |
| 47       | 4 392.756            | 54 465.874           | 564 575.433          | 45.32181             | 1 309.78202          | 22 508.77419         |
| 48       | 4 098.787            | 50 073.118           | 510 109.559          | 44.25261             | 1 264.46021          | 21 198.99217         |
| 49       | 3 822.528            | 45 974.331           | 460 036.441          | 43.26782             | 1 220.20760          | 19 934.53196         |
| 50       | 3 562.891            | 42 151.803           | 414 062.110          | 42.35517             | 1 176.93978          | 18 714.32436         |
| 51       | 3 318.863            | 38 588.912           | 371 910.307          | 41.55215             | 1 134.58461          | 17 537.38458         |
| 52       | 3 089.450            | 35 270.049           | 333 321.395          | 41.25131             | 1 093.03246          | 16 402.79997         |
| 53       | 2 873.325            | 32 180.599           | 298 051.346          | 41.32441             | 1 051.78115          | 15 309.76751         |
| 54       | 2 669.359            | 29 307.274           | 265 870.747          | 41.50047             | 1 010.45674          | 14 257.98636         |

<sup>1</sup> This table appears on pages 74 and 75.

TABLE 105

COMMUTATION COLUMNS, 6%.

WHITE FEMALES

BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.<sup>1</sup>

| AGE.   | WHITE FEMALES. |                |                |                |                |                |
|--------|----------------|----------------|----------------|----------------|----------------|----------------|
| x      | D <sub>x</sub> | N <sub>x</sub> | S <sub>x</sub> | C <sub>x</sub> | M <sub>x</sub> | R <sub>x</sub> |
| Years. |                |                |                |                |                |                |
| 55     | 2 476.763      | 26 637.915     | 236 563.473    | 41.86864       | 968.95627      | 13 247.52962   |
| 56     | 2 294.700      | 24 161.152     | 209 925.558    | 42.20658       | 927.08763      | 12 278.57335   |
| 57     | 2 122.605      | 21 866.452     | 185 764.406    | 42.09963       | 884.88105      | 11 351.48572   |
| 58     | 1 960.358      | 19 743.847     | 163 897.954    | 41.64463       | 842.78142      | 10 466.60467   |
| 59     | 1 807.750      | 17 783.489     | 144 154.107    | 41.16687       | 801.13679      | 9 623.82325    |
| 60     | 1 664.257      | 15 975.739     | 126 370.618    | 40.55257       | 759.96992      | 8 822.68646    |
| 61     | 1 529.501      | 14 311.482     | 110 394.879    | 40.01082       | 719.41735      | 8 062.71654    |
| 62     | 1 402.915      | 12 781.981     | 96 083.397     | 39.68045       | 679.40653      | 7 343.29919    |
| 63     | 1 283.824      | 11 379.066     | 83 301.416     | 39.37934       | 639.72608      | 6 663.89266    |
| 64     | 1 171.775      | 10 095.242     | 71 922.350     | 38.82662       | 600.34674      | 6 024.16658    |
| 65     | 1 066.622      | 8 923.467      | 61 827.108     | 38.10344       | 561.52012      | 5 423.81984    |
| 66     | 968.1437       | 7 856.8452     | 52 903.6412    | 37.29742       | 523.41668      | 4 862.29972    |
| 67     | 876.0459       | 6 888.7015     | 45 046.7960    | 36.51761       | 486.11926      | 4 338.88304    |
| 68     | 789.9406       | 6 012.6556     | 38 158.0945    | 35.74248       | 449.60165      | 3 852.76378    |
| 69     | 709.4846       | 5 222.7150     | 32 145.4389    | 34.85345       | 413.85917      | 3 403.16213    |
| 70     | 634.4717       | 4 513.2304     | 26 922.7239    | 33.90263       | 379.00572      | 2 989.30296    |
| 71     | 564.6553       | 3 878.7587     | 22 409.4935    | 32.73690       | 345.10309      | 2 610.29724    |
| 72     | 499.9570       | 3 314.1034     | 18 530.7348    | 31.28180       | 312.36619      | 2 265.19415    |
| 73     | 440.3756       | 2 814.1464     | 15 216.6314    | 29.61840       | 281.08439      | 1 952.82796    |
| 74     | 385.8303       | 2 373.7708     | 12 402.4850    | 27.91659       | 251.46599      | 1 671.74357    |
| 75     | 336.0742       | 1 987.9405     | 10 028.7142    | 26.15742       | 223.54940      | 1 420.27758    |
| 76     | 290.8939       | 1 651.8663     | 8 040.7737     | 24.39537       | 197.39198      | 1 196.72818    |
| 77     | 250.0329       | 1 360.9724     | 6 388.9074     | 22.66402       | 172.99661      | 999.33620      |
| 78     | 213.2160       | 1 110.9395     | 5 027.9350     | 21.00041       | 150.33259      | 826.33959      |
| 79     | 180.1467       | 897.7235       | 3 916.9955     | 19.38636       | 129.33218      | 676.00700      |
| 80     | 150.5633       | 717.5768       | 3 019.2720     | 17.86993       | 109.94582      | 546.67482      |
| 81     | 124.1710       | 567.0135       | 2 301.6952     | 16.18542       | 92.07589       | 436.72900      |
| 82     | 100.9570       | 442.8425       | 1 734.6817     | 14.19788       | 75.89047       | 344.65311      |
| 83     | 81.04458       | 341.88551      | 1 291.83920    | 12.09149       | 61.69259       | 268.76264      |
| 84     | 64.36565       | 260.84093      | 949.95369      | 10.20632       | 49.60110       | 207.07005      |
| 85     | 50.51601       | 196.47528      | 689.11276      | 8.49584        | 39.39478       | 157.46895      |
| 86     | 39.16080       | 145.95927      | 492.63748      | 7.00914        | 30.89894       | 118.07417      |
| 87     | 29.93498       | 106.79847      | 346.67821      | 5.70504        | 23.88980       | 87.17523       |
| 88     | 22.53552       | 76.86349       | 239.87974      | 4.58767        | 18.18476       | 63.28543       |
| 89     | 16.67227       | 54.32797       | 163.01625      | 3.63656        | 13.59709       | 45.10067       |
| 90     | 12.09197       | 37.65570       | 108.68828      | 2.82325        | 9.96053        | 31.50358       |
| 91     | 8.58428        | 25.56373       | 71.03258       | 2.14673        | 7.13728        | 21.54305       |
| 92     | 5.95164        | 16.97945       | 45.46885       | 1.58649        | 4.99055        | 14.40577       |
| 93     | 4.02827        | 11.02781       | 28.48940       | 1.14133        | 3.40406        | 9.41522        |
| 94     | 2.65893        | 6.99954        | 17.46159       | .79670         | 2.26273        | 6.01116        |
| 95     | 1.71172        | 4.34061        | 10.46205       | .53952         | 1.46603        | 3.74843        |
| 96     | 1.07531        | 2.62889        | 6.12144        | .35453         | .92651         | 2.28240        |
| 97     | .65992         | 1.55358        | 3.49255        | .22849         | .57198         | 1.35589        |
| 98     | .39407         | .89366         | 1.93897        | .14371         | .34349         | .78391         |
| 99     | .22806         | .49959         | 1.04531        | .08547         | .19978         | .44042         |
| 100    | .12968         | .27153         | .54572         | .05283         | .11431         | .24064         |
| 101    | .06951         | .14185         | .27419         | .02885         | .06148         | .12633         |
| 102    | .03672         | .07234         | .13234         | .01485         | .03263         | .06485         |
| 103    | .01980         | .03562         | .06000         | .00934         | .01778         | .03222         |
| 104    | .00934         | .01582         | .02438         | .00440         | .00844         | .01444         |
| 105    | .00440         | .00648         | .00856         | .00208         | .00404         | .00600         |
| 106    | .00208         | .00208         | .00208         | .00196         | .00196         | .00196         |

<sup>1</sup> This table appears on pages 74 and 75.



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## PART VI

### MATHEMATICAL THEORY OF CONSTRUCTION OF LIFE TABLES

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## PART VI.—MATHEMATICAL THEORY OF CONSTRUCTION OF LIFE TABLES.

### DIVISION INTO THREE MAIN SECTIONS FOR CONSTRUCTION.

95. These life tables are constructed from the population and mortality returns of the Bureau of the Census; in some cases the birth registration returns have been employed. The construction may be broadly classified into three sections, the treatment varying greatly in these respective sections. The first section includes the early years of life, ranging from birth to about age 5; the second or middle range runs from about age 5 to about age 85; and the third range takes in the ages from about 85 to 115. Age 116 was assumed to be the limit of human life, and the tables are so calculated that the rate of mortality at age 115 is unity. Each of these sections presents its own peculiar problems which will be considered in detail.

### GRAPHICAL REPRESENTATION OF FLOW OF POPULATION.<sup>1</sup>

96. The work of analyzing the problems of life table construction is much simplified by the choice of a suitable graphical representation. This representation should show for each individual the date of birth, the age on any given date, the date of death, and the age at death. Various plans have been proposed to show graphically the above facts; of these the one described below will be employed.

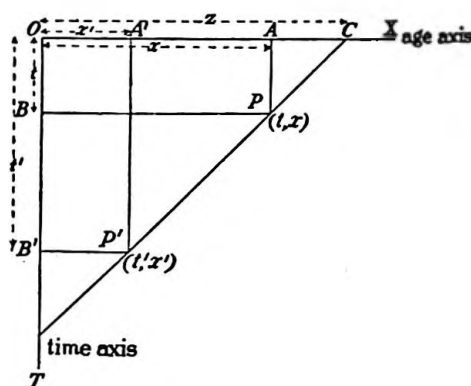


DIAGRAM 1.—CONNECTION BETWEEN FLOW OF A POPULATION AND TIME AND AGE.

Rectangular axes OX and OT are chosen as in Diagram 1. OT is the *time axis* and OX the *age axis*, and the origin O is taken as some definite point or date

<sup>1</sup> The graphical representation and mathematical theory outlined in sections 96 to 106 are the outcome of a gradual development with which may be connected the names of a number of writers on mathematical statistics—Knapp, Zeuner, Becker, Lexis, Perozzo, and others. For a systematic treatment of this subject the reader is referred to *Wahrscheinlichkeitsrechnung*, by E. Czuber, vol. 2, p. 90. This work was freely consulted in preparing the above-mentioned sections.

in time. Then  $(t, x)$  represents the individual now aged  $x$  years who was born at B just  $t$  years after the time O. If the line PC is drawn through P perpendicular to the bisector of angle TOX it appears that  $OB = AC = t$  and  $OC = t + x = z$ . It is evident that  $z$  is the *current time* because P was born  $t$  years after the time O and is now  $x$  years of age. The figure also shows that P' was born  $t'$  years after the time O and is now  $x'$  years of age. Since P and P' are on the *same diagonal line*, it follows that at the time  $z$  they are both living, but are not of the same age. A line such as BP may be termed very properly the *life line* of the individual P. It starts at B with his birth and moves continuously to the right, and its length at any time represents his age. Three lines, particularly important in this method of graphical representation, are drawn through the point P; the one parallel to OT cuts OX at A, and OA is the age  $x$  at the time  $z$ ; the one parallel to OX cuts OT at B, and OB is the time of birth measured from the origin O; the line through P perpendicular to the bisector of angle TOX intersects OX at C, and OC represents the *present or current time*  $= z = t + x$ , measured from O. Consider the lines PA, PB, and PC all produced indefinitely, each dividing the plane in two regions; then another way of stating it is that all points to the left of the line PA represent persons *less than*  $x$  years of age, and all points to the right of PA persons *more than*  $x$  years of age; all points above PB represent persons born *before* the time  $t$ , and all points below PB persons born *after* the time  $t$ ; all points to the left of PC represent persons living *before* the time  $z$ , and all points to the right of PC persons living *after* the time  $z$ . When a person dies the life line comes to an end, and the aggregate of these end points of terminated life lines may be considered as representing an aggregate of the dead.

Suppose now a definite area, as some state or country, is fixed upon, and an origin, as January 1, 1910, selected, and all the individuals or persons born in that country represented by appropriate life lines in a diagram such as above described.

In Diagram 2 lines are drawn parallel to the axes a unit or year apart, and diagonal lines are also drawn, passing through the vertices of the unit squares and parallel to the bisector of the external angle. Let the vertical set be designated as the  $x$  lines, the horizontal as the  $t$  lines, and the diagonal as the  $z$  lines. The  $x$  and  $t$  lines divide the plane into unit squares, the  $t$  and  $z$  and the  $z$  and  $x$  lines into elemen-

tary parallelograms. A study of what happens in each of these elementary areas will throw a great deal of light on the flow of a population or an aggregate of individuals.

The upper triangle of the upper left-hand unit square, containing the origin in Diagram 2, includes individuals born in 1910 and living or dying in the age interval 0-1. Four life lines are drawn representing individuals born January 1, April 1, July 1, and October 1, in the calendar year 1910. The arrow-heads ending on the first diagonal line show that on January 1, 1911, they were, respectively, 1 year, 9

months, 6 months, and 3 months old. If life lines were drawn to represent every individual born in the world during the calendar year 1910, the variable points tracing the life lines of those living on January 1, 1911, would all lie at that time on the first diagonal  $z$  line and a count or enumeration of the population of the world in the age interval 0-1 on this date would comprehend or include every life line actually reaching this diagonal. Deaths in this aggregate would correspond to the life lines *ending* within the triangle and not extending to the diagonal line.

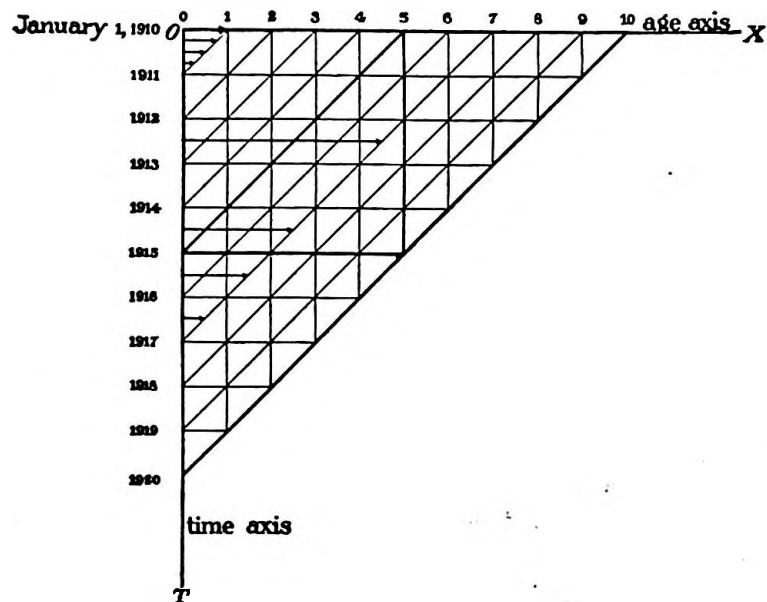


DIAGRAM 2.—FLOW OF A POPULATION MEASURED BY LIFE LINES.

If all the births in the world during the next calendar year, 1911, were entered in the form of life lines and a census taken January 1, 1912, the population would include all living individuals between 0 and 2 years of age, that is, living in the age intervals 0-1 and 1-2. The diagram plainly shows that a count of life lines extending to the lower half of the second diagonal would give the 0-1 population, and a count of the life lines extending to the upper half of the second diagonal would give the population living in the age interval 1-2. The first group is seen, by following the life lines back to the OT axis, to have been born in 1911, the second group in 1910.

It is evident that the process above described is one of continuous flow and that the *front* of the moving diagonal line corresponds to the persons alive *now* who were born since January 1, 1910. The plane may be considered as filled, first, with an aggregate of points, the *ends* of life lines which have ended or broken off, representing the number of deaths, and the ages and the dates at which deaths have occurred; and, second, life lines which have not ended or broken

off and which represent various things, such as the number of persons living at the present moment, their dates of birth, and their ages. All the life lines, those broken off and those unbroken, represent the number born.

#### MATHEMATICAL THEORY OF FLOW OF POPULATION.

97. A sufficient explanation has now been made of the graphical representation to pass to the general theory of the movement or flow of a population in time. If a large group or aggregate is taken, it may be assumed that the births, counting from a given time, are continuous; likewise for the deaths. Let the function  $F(t, x)$  denote the number of persons, born after the fixed date selected as the origin and before the time  $t$ , who are living at age  $x$ . This is a definite aggregate as soon as an area of observation has been chosen. For example, all the persons born in the world after January 1, 1800, and before January 1, 1860, who reached age 35 would be represented by  $F(60, 35)$ , if January 1, 1800, were selected as the origin and the entire world were the area under consideration.



Taking the axis  $y$  perpendicular to the  $(t, x)$  plane, Diagram 4, the function  $y = f(t, x)$  is erected at each point in the plane, the end points thus describing a surface. The perpendiculars erected on any curve as  $x = g(t)$  in the plane will form a cylindrical surface, and it is evident that the integral

$$\int_{P_1 P_2} f(t, x) dt = \int_{t_1}^{t_2} f(t, x) dt = \int_{t_1}^{t_2} f[t, g(t)] dt \quad (4)$$

can be represented by the shaded projection  $t_1 R_1 t_2 R_2$  on the YT plane of the cylindrical surface  $P_1 S_1 P_2 S_2$ . It thus appears that the projection of the cylindrical surface on the YT plane represents the aggregate or number of persons born in the interval  $(t_1, t_2)$  who attained the corresponding ages along the curve  $x = g(t)$  between the age limits  $P_1$  and  $P_2$ . This same number would also be given by enumerating the life lines starting between  $t_1$  and  $t_2$  and intersecting the curve  $x = g(t)$ .

Another important result can be obtained by an application of Green's theorem in space of two dimensions. It may be stated as follows:

*The surface integral of  $\varphi(t, x)$  extended over any simple closed area  $A$  is equal to the line integral of  $f(t, x)$  taken along the boundary of  $A$  in the counterclockwise direction.*

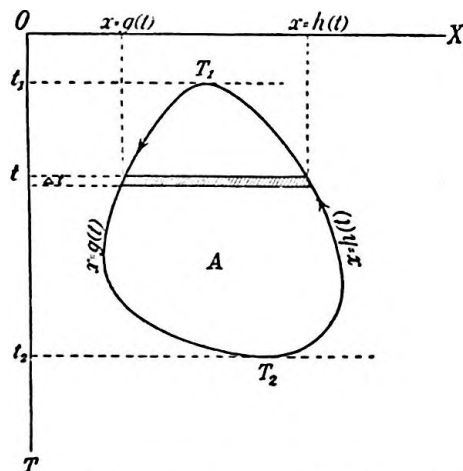


DIAGRAM 5.—NUMBER OF DEATHS IN CLOSED AREA.

Let  $t_1$  and  $t_2$  be tangent to the boundary of the simple closed area  $A$  at points  $T_1$  and  $T_2$ , respectively, and  $x = g(t)$  be the equation of the left side of the boundary of  $A$  between the points of tangency and  $x = h(t)$ , the equation of the right side. Since

$$\varphi(t, x) = -\frac{\partial f(t, x)}{\partial x},$$

$$\begin{aligned} \iint_A \varphi(t, x) dt dx &= - \int_{t_1}^{t_2} dt \int_{g(t)}^{h(t)} \frac{\partial f(t, x)}{\partial x} dx \\ &= - \int_{t_1}^{t_2} f[t, h(t)] dt + \int_{t_1}^{t_2} f[t, g(t)] dt \\ &= \int_{t_1}^{t_2} f[t, g(t)] dt + \int_{t_2}^{t_1} f[t, h(t)] dt, \end{aligned} \quad (5)$$

which is evidently equal to the integral of  $f(t, x)$  with respect to  $t$  extended around the boundary in the positive direction.

On account of the definition of  $\varphi(t, x)$  the integral of the function extended over the surface area  $A$  is equal to the number of deaths falling within the area. It is therefore equal to the number of life lines starting between  $t_1$  and  $t_2$  and ending somewhere within the area  $A$ .

#### AGGREGATE OF THOSE SURVIVING TO SAME AGE.

99. It is now possible to define some of the more important aggregates of the living and dead and to establish equations connecting them. One of the most useful aggregates of the living for purposes of life table construction is that of persons of the *same age*. This aggregate is readily observed in the graphical representation already explained.

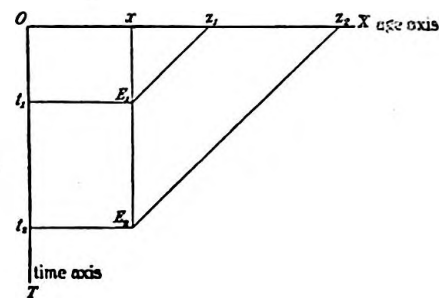


DIAGRAM 6.—BIRTH AND TIME INTERVALS COVERED BY THOSE SURVIVING TO SAME AGE.

Referring to Diagram 6, the enumeration of life lines crossing  $E_1 E_2$  would give the number of persons born in the interval  $(t_1, t_2)$  who actually lived to age  $x$ . It is evident they did not attain this age at the same time; the figure shows that the first one, born at time  $t_1$ , attained age  $x$  at time

$$z_1 = t_1 + x$$

and the last born at time  $t_2$  attained age  $x$  at time

$$z_2 = t_2 + x.$$

By subtraction

$$z_2 - z_1 = t_2 - t_1,$$

whence it appears that if the birth interval is one year the same is true of the interval of time between which the first and last members of the aggregate attain age  $x$ . This aggregate, by the first theorem in section 98, may be represented analytically by the integral

$$E_x^{t_1/t_2} = \int_{t_1}^{t_2} f(t, x) dt. \quad (6)$$

This is a special case where the curve  $x = g(t)$  reduces to a line,  $x = \text{constant}$ , parallel to the time axis. In the particular case where the constant is zero the aggregate

$$E_0^{t_1/t_2} = \int_{t_1}^{t_2} f(t, 0) dt \quad (7)$$

is equal to the number born in the interval of time  $(t_1, t_2)$ . This is a statistical aggregate and would be derived directly from accurate birth registration. Unfortunately, for most areas, reliable birth registration statistics were not available for the construction of the present life tables, and the number of births had to be obtained by another method explained in the text. The function  $E_x^{t_1/t_2}$  is in general not a statistical aggregate and is not given in the publications of the bureau. Its value must be derived from other statistical aggregates which have been obtained by actual enumeration.

#### AGGREGATE OF THOSE LIVING AT SAME TIME.

100. Another important aggregate of the living consists of those persons living at the *same time*. It is made up of individuals of different ages and is a statistical aggregate, that is, ordinarily obtainable from collected and published data.

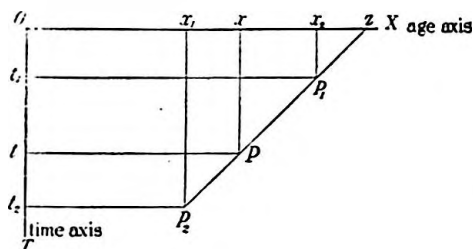


DIAGRAM 7.—BIRTH AND AGE INTERVALS COVERED BY THOSE LIVING AT SAME TIME.

This aggregate would be determined by the number of life lines, shown in Diagram 7, crossing the diagonal line  $P_1P_2$ , among those who were born in the time interval  $(t_1, t_2)$ . The diagram shows that

$$z = t + x$$

is the date of observation, and a count, enumeration, or census taken at time  $z$  along the line  $P_1P_2$  would give the population or number of persons then living in the age interval  $(x_1, x_2)$ . The youngest person in this aggregate is aged

$$x_1 = z - t_2,$$

and the oldest

$$x_2 = z - t_1,$$

and the general relation existing between the time of enumeration  $z$ , time of birth  $t$ , and age at enumeration is

$$x = z - t.$$

This is the equation of the diagonal line, and employing the first theorem in section 98 with  $g(t) = z - t$ , the following is the result:

$$P_z^{x_1/x_2} = \int_{P_1P_2} g(t, x) dt = \int_{t_1}^{t_2} f(t, z - t) dt. \quad (8)$$

This integral has for its value the population at time  $z$  of all persons in the aggregate living between

ages  $x_1 = z - t_2$  and  $x_2 = z - t_1$  who were born in the time interval  $(t_1, t_2)$ . By subtraction

$$x_2 - x_1 = t_2 - t_1,$$

whence it appears that the age interval included in the aggregate is the same as the time of birth interval; in particular, if the latter is one year the age interval will be one year. This aggregate is taken every ten years in this country and the results tabulated and published by the Bureau of the Census. An enumeration was made on April 15, 1910, and the next preceding one on June 1, 1900.<sup>1</sup> The symbol  $P_z^{x_1/x_2}$  will be employed to represent explicitly the population between ages  $x_1$  and  $x_2$  enumerated at time  $z$ , born in the interval  $(t_1, t_2)$ , where  $t_1 = z - x_2$  and  $t_2 = z - x_1$ . For example, if the origin is June 1, 1870, then  $P_{40}^{26/27}$  would denote the number of persons living on June 1, 1910, between ages 26 and 27; the youngest in the aggregate was born June 1, 1884, and the oldest June 1, 1883, and all the others between these dates.

#### FIRST AGGREGATE OF THE DEAD: TYPE ONE.

101. There are three mortality or death aggregates to which attention will be called. The first aggregate of the dead,  $D_{x_1/x_2}^{t_1/t_2}$ , referred to as *type one*, includes those persons who were born in the time interval  $(t_1, t_2)$  and who lived to age  $x_1$ , but not to age  $x_2$ , that is, died in the age interval  $(x_1, x_2)$ .

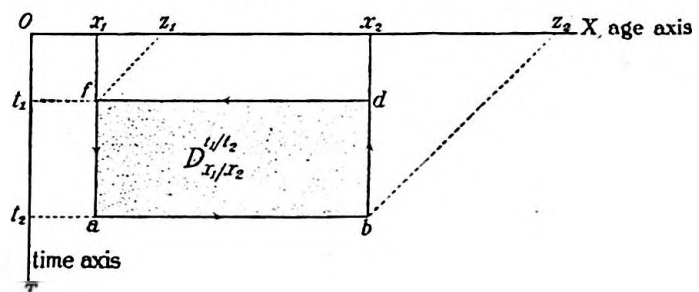


DIAGRAM 8.—AGGREGATE OF THE DEAD WHO WERE BORN IN SAME TIME INTERVAL AND WHO DIED IN SAME AGE INTERVAL.

Let the dots or points in the area  $D_{x_1/x_2}^{t_1/t_2}$  represent the ends or terminations of life lines which started in time interval  $(t_1, t_2)$  and ended in age interval  $(x_1, x_2)$ ; then a count of these points would correspond to the registration of deaths, occurring after time  $z_1$  and before time  $z_2$ , of persons between ages  $x_1$  and  $x_2$  who were born in the time interval  $(t_1, t_2)$ . The first death at  $f$  occurs at the time

$$z_1 = t_1 + x_1$$

and the last at  $b$  at the time

$$z_2 = t_2 + x_2.$$

Since

$$z_2 - z_1 = (t_2 - t_1) + (x_2 - x_1),$$

it appears that if the generation or birth interval

<sup>1</sup> The last enumeration was made as of Jan. 1, 1929.

$(t_1, t_2)$  and the age interval  $(x_1, x_2)$  are each *one* year, the observation interval  $(z_1, z_2)$  is *two* years. For example, if the persons in this aggregate were born in the calendar year 1880 and died in the age interval (25, 26), that is, after reaching age 25 but before attaining age 26, the deaths must have been distributed over the *two* calendar years 1905 and 1906.

The second theorem in section 98, when applied to the area  $D_{z_1/z_2}^{t_1/t_2}$  leads to the following result:

$$\begin{aligned} D_{z_1/z_2}^{t_1/t_2} &= \int_{t_1}^{t_2} \int_{x_1}^{x_2} \varphi(t, x) dt dx \\ &= \int_{t_1}^{t_2} f(t, x_1) dt - \int_{t_1}^{t_2} f(t, x_2) dt \\ &= E_{x_1}^{t_1/t_2} - E_{x_2}^{t_1/t_2}. \end{aligned} \quad (9)$$

In taking the integral along the boundary of area  $D_{z_1/z_2}^{t_1/t_2}$  Diagram 8, in the direction indicated by the arrows, it is evident that the integrals along the lines  $df$  and  $ab$  vanish, because they are normal to the time axis. The result

$$D_{z_1/z_2}^{t_1/t_2} = E_{x_1}^{t_1/t_2} - E_{x_2}^{t_1/t_2} \quad (10)$$

might have been inferred at once because the number of deaths must be the excess of life lines in generation  $(t_1, t_2)$  which cross the  $x_1$  line over those which cross the  $x_2$  line.

#### SECOND AGGREGATE OF THE DEAD: TYPE TWO.

102. The second aggregate of the dead,  $D_{z_1/z_2}^{t_1/t_2}$ , referred to as *type two*, includes persons in the generation  $(t_1, t_2)$  who die after the time  $z_1$  and before the time  $z_2$ .

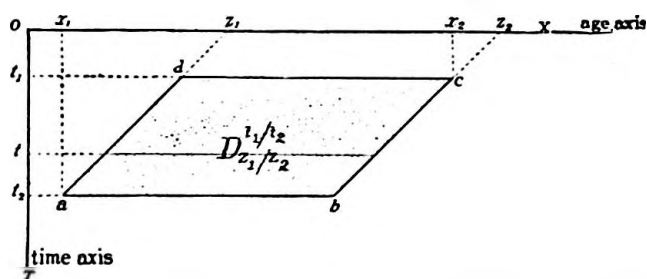


DIAGRAM 9.—AGGREGATE OF THE DEAD WHO WERE BORN IN SAME TIME INTERVAL AND WHO DIED IN SAME TIME INTERVAL.

Diagram 9 shows that the deaths are distributed in the age interval  $(x_1, x_2)$ , where

$$x_1 = z_1 - t_1$$

and

$$x_2 = z_2 - t_1.$$

Since

$$x_2 - x_1 = (t_2 - t_1) + (z_2 - z_1),$$

it appears that the age interval will cover a period of *two* years if the generation and observation periods are each *one* year. For example, when the observation period for deaths is the calendar year 1910 and is confined to persons born in the calendar year 1880, the ages of the decedents will be from 29 to 31. By means of the second theorem in section 98 the surface integral extended over the area  $D_{z_1/z_2}^{t_1/t_2}$  is equal to the boundary integral along  $abcd$ , the integrals along  $ab$  and  $cd$  vanishing as these lines are normal to the time axis. This gives, since  $x = z_1 - t$  on  $ad$  and  $x = z_2 - t$  on  $bc$ ,

$$\begin{aligned} D_{z_1/z_2}^{t_1/t_2} &= \int_{t_1}^{t_2} \int_{z_1-t}^{z_2-t} \varphi(t, x) dt dx = \int_{t_1}^{t_2} dt \int_{z_1-t}^{z_2-t} -\frac{\partial f(t, x)}{\partial x} dx \\ &= \int_{t_1}^{t_2} f(t, z_1 - t) dt - \int_{t_1}^{t_2} f(t, z_2 - t) dt \\ &= P_{z_1}^{z_1/z_2} - P_{z_2}^{z_1/z_2}. \end{aligned} \quad (11)$$

The expression for  $D_{z_1/z_2}^{t_1/t_2}$  in terms of population aggregates could be verified at once from the diagram, because the terminated life lines or deaths in  $D_{z_1/z_2}^{t_1/t_2}$  must be the excess of the life lines of generation  $(t_1, t_2)$  which cross the  $z_1$  line over those which cross the  $z_2$  line.

#### THIRD AGGREGATE OF THE DEAD: TYPE THREE.

103. The third aggregate of the dead,  $D_{z_1/z_2}^{z_1/z_2}$ , referred to as *type three*, includes those persons who die within the period  $(z_1, z_2)$  and in the age interval  $(x_1, x_2)$ .

Diagram 10 shows that

$$t_1 = z_1 - x_2$$

and

$$t_2 = z_2 - x_1,$$

whence

$$t_2 - t_1 = (z_2 - z_1) + (x_2 - x_1),$$

and it follows that the generation interval is the sum of the observation period and the age interval. If the last two are *one* year intervals, the generation interval will cover *two* years. In other words, if the deaths for a calendar year are arranged by age intervals of one year, the persons dying in any age interval are distributed over two calendar years of birth. For example, the deaths for the calendar year 1916 of persons in the age interval 49-50 are distributed over two calendar years of birth, namely, 1866 and 1867.



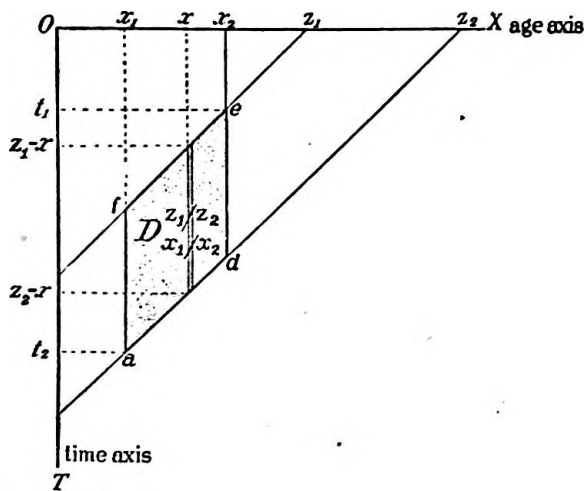


DIAGRAM 10.—AGGREGATE OF THE DEAD WHO DIED IN SAME TIME INTERVAL AND IN SAME AGE INTERVAL.

The integral expressing the value of  $D_{x_1/z_1}^{x_2/z_2}$  is by the second theorem in section 98,

$$\begin{aligned} D_{x_1/z_1}^{x_2/z_2} &= \int_{x_1}^{x_2} \int_{z_1-x}^{z_2-x} \varphi(t, x) dx dt \\ &= E_{x_1}^{t_1 + (x_2 - x_1)/t_2} - P_{x_2}^{x_1/z_2} \\ &\quad - E_{x_2}^{t_2 + (x_2 - x_1)/t_2} + P_{x_1}^{x_1/z_2} \\ &= E_{x_1}^{z_1 - x_1/z_2 - x_1} - P_{x_2}^{x_1/z_2} \\ &\quad - E_{x_2}^{z_2 - x_2/z_2 - x_2} + P_{x_1}^{x_1/z_2}, \end{aligned} \quad (12)$$

This result may also be obtained by breaking up the parallelogram  $adef$ , Diagram 11, into the upper triangle  $fne$ , the middle rectangle  $mdnf$ , and the lower triangle  $adm$ , and applying the second theorem of section 98 directly to each part and taking the sum. The integrals are as follows:

$$\begin{aligned} D_{x_1/z_1}^{x_2/z_2} &= \int_{fne} \varphi(t, x) dt dx + \int_{mdnf} \varphi(t, x) dt dx + \int_{adm} \varphi(t, x) dt dx \\ &= \int_{z_1-x_2}^{z_1-x_1} dt \int_{z_1-t}^{x_2} -\frac{\partial f(t, x)}{\partial x} dx + \int_{z_1-x_1}^{z_2-x_1} dt \int_{x_1}^{x_2} -\frac{\partial f(t, x)}{\partial x} dx \\ &\quad + \int_{z_2-x_1}^{z_2-x_2} dt \int_{x_1}^{z_2-t} -\frac{\partial f(t, x)}{\partial x} dx \\ &= \int_{z_1-x_2}^{z_1-x_1} [f(t, z_1-t) - f(t, x_2)] dt + \int_{z_1-x_1}^{z_2-x_1} [f(t, x_1) - f(t, x_2)] dt \\ &\quad + \int_{z_2-x_1}^{z_2-x_2} [f(t, x_1) - f(t, z_2-t)] dt \\ &= \int_{z_1-x_1}^{z_2-x_1} f(t, x_1) dt - \int_{z_1-x_1}^{z_2-x_1} f(t, z_2-t) dt - \int_{z_1-x_2}^{z_1-x_1} f(t, x_2) dt \\ &\quad + \int_{z_1-x_2}^{z_1-x_1} f(t, z_1-t) dt \\ &= E_{x_1}^{z_1-x_1/z_2-x_1} - P_{x_2}^{x_1/z_2} - E_{x_2}^{z_2-x_2/z_2-x_2} + P_{x_1}^{x_1/z_2}. \end{aligned}$$

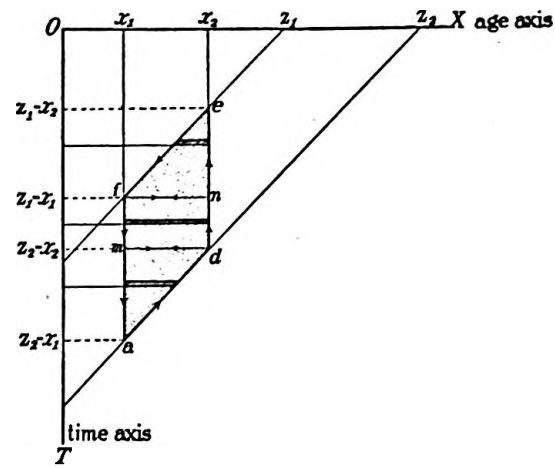


DIAGRAM 11.—INTEGRATION TO DETERMINE NUMBER OF DEAD IN TYPE THREE AGGREGATE.

From Diagram 10 it can be seen that the life lines which terminate in  $D_{x_1/z_1}^{x_2/z_2}$  entered through  $af$  and  $fe$ , and that the life lines which passed through it left through  $ad$  and  $de$ . Accordingly, the life lines which terminate in this area must be expressed by

$$D_{x_1/z_1}^{x_2/z_2} = (P_{x_1}^{x_1/z_2} + E_{x_1}^{z_1-x_1/z_2-x_1}) - (P_{x_2}^{x_1/z_2} + E_{x_2}^{z_2-x_2/z_2-x_2}),$$

which agrees with equation (12).

In the special case where the observation period and the age interval are each *one* year, this reduces to

$$D_{x/z+1}^{z/z+1} = E_x^{t+1} - E_{x+1}^{t+1} + P_z^{z/z+1} - P_{z+1}^{z/z+1} \quad (13)$$

and the generation interval covers *two* years. This relation might have been written down directly by referring to parallelogram  $adef$  in Diagram 12.

#### RELATIONS BETWEEN AGGREGATES OF THE LIVING AND OF THE DEAD.

104. It will be observed in the case of the three types of aggregates of the dead that, when any two of the three variables  $t$ ,  $x$ , and  $z$  are given a unit increment, the remaining one takes on an increment of double that amount.

Diagram 12 shows the two types of aggregates of the living,

$$E_x^{t/t+1} \quad \text{and} \quad P_z^{z/z+1},$$

and the three types of aggregates of the dead:

$$\begin{aligned} \text{Type one, } D_{x/z+1}^{t/t+1} \text{ in } abdf \\ = D_{x,z+1,t} + D_{x+1,t+1,z+1} \text{ or } D_\alpha + D_\beta; \end{aligned}$$

$$\begin{aligned} \text{Type two, } D_{z+1/t+2}^{t/t+1} \text{ in } abcd \\ = D_{z+1,t+1,z+1} + D_{x+1,t+2,t} \text{ or } D_\beta + D_\gamma; \end{aligned}$$

$$\begin{aligned} \text{Type three, } D_{x/z+1}^{z/z+1} \text{ in } adef \\ = D_{z,t,x+1} + D_{z,t+1,t} \text{ or } D_\delta + D_\alpha. \end{aligned}$$

The last,  $D_{x/z+1}^{z/z+1}$ , is the only statistical aggregate of the dead available for this country; it is given in the form of deaths for the calendar year according to age intervals. If, in addition, these deaths were classified according to year of birth, then the aggregates of the dead in each elementary triangle would be known, and it would be a simple matter to obtain the probability of living and hence the rate of mortality at each age. For example, if  $D_\alpha$  and  $D_\beta$  were known, Diagram 12 shows that

$$E_x^{t/t+1} = D_\alpha + P_{z+1}^{z/z+1}$$

and

$$P_{z+1}^{z/z+1} = D_\beta + E_{z+1}^{t/t+1}$$

whence

$$\frac{E_{z+1}^{t/t+1}}{E_x^{t/t+1}} = p_z^{t/t+1} = \frac{P_{z+1}^{z/z+1} - D_\beta}{P_{z+1}^{z/z+1} + D_\alpha}$$

and

$$q_z^{t/t+1} = 1 - p_z^{t/t+1} = \frac{D_\alpha + D_\beta}{P_{z+1}^{z/z+1} + D_\alpha} \quad (14)$$

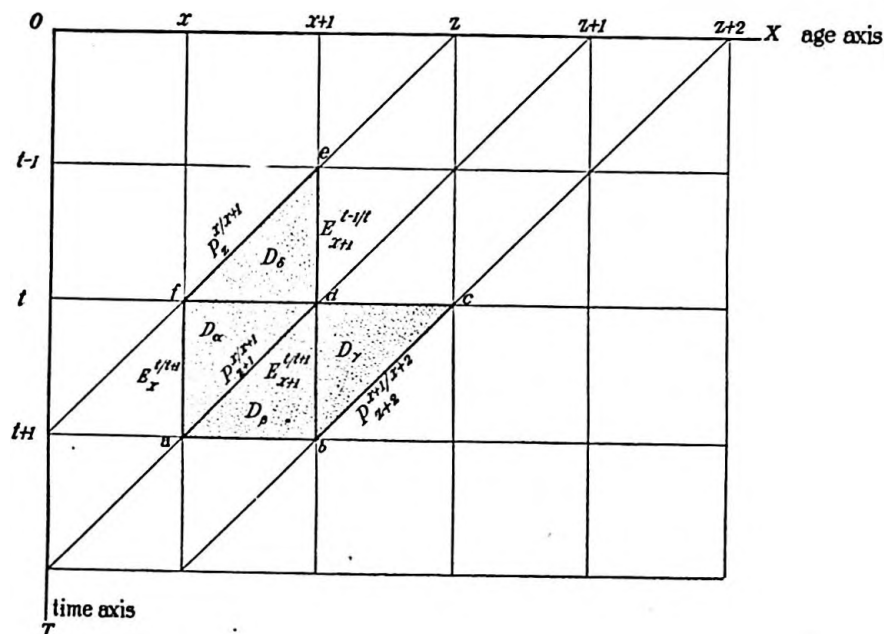


DIAGRAM 12.—RELATIONS BETWEEN AGGREGATES OF THE LIVING AND OF THE DEAD.

#### EXPRESSION OF RATE OF MORTALITY IN TERMS OF STATISTICAL AGGREGATES.

105. In order to calculate the rapidly changing rate of mortality for ages under 5 years it is necessary to take into account the force of mortality which is defined as follows,  $\xi$  being a variable measured from  $x$ :

$$\mu_{x+\xi} = -\frac{1}{l_{x+\xi}} \frac{dl_{x+\xi}}{d(x+\xi)} = -\frac{d \log l_{x+\xi}}{d(x+\xi)} = -\frac{d \log l_{x+\xi}}{d\xi}. \quad (15)$$

Therefore,

$$-\int_0^\xi \mu_{x+\xi} d\xi = \int_0^\xi d \log l_{x+\xi} = \log l_{x+\xi} - \log l_x = \log {}_\xi p_x$$

and

$${}_x p_x = e^{-\int_0^\xi \mu_{x+\xi} d\xi} \quad \text{and} \quad {}_x q_x = 1 - e^{-\int_0^\xi \mu_{x+\xi} d\xi}.$$

In particular, when  $\xi = 1$ ,

$$p_x = e^{-\int_0^1 \mu_{x+\xi} d\xi} \quad \text{and} \quad q_x = 1 - e^{-\int_0^1 \mu_{x+\xi} d\xi}. \quad (16)$$

By referring to Diagram 13 it will be observed that an application of the second theorem in section 98 leads to the equation

$$D_{x/z+1}^{z/z+1} = E_x^{z_1-z/z_1-z} - P_{z_1}^{z/z+1} - E_{x+\xi}^{z_1-z-\xi/z_1-z-\xi} + P_{z_1}^{z/z+1},$$

or, dropping superscripts, setting

$$\delta_{x/z+\xi} = P_{z_1}^{x/z+\xi} - P_{z_1}^{x/z+\xi}, \quad (17)$$

and solving for  $E_{x+\xi}$ , to

$$E_{x+\xi} = E_x - \delta_{x/z+\xi} - D_{x/z+\xi}. \quad (18)$$

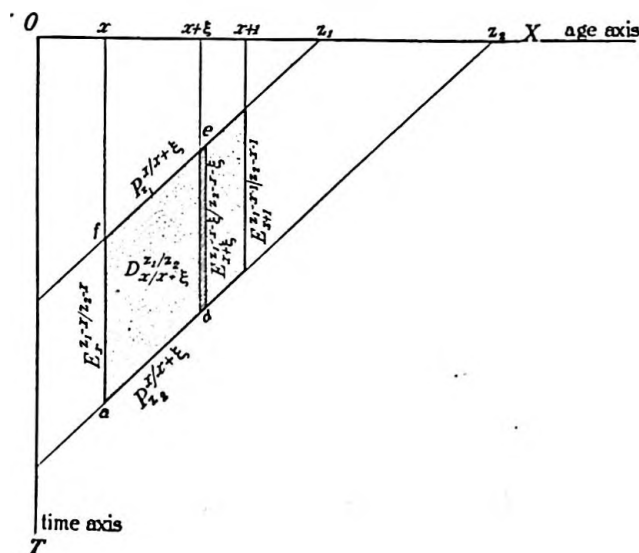


DIAGRAM 13.—VARIATION OF AGGREGATES OF THE LIVING AND TYPE THREE AGGREGATES OF THE DEAD WITH AGE AND TIME.

The number of deaths in the differential strip  $dD_{x/z+\xi}$  is the product of the number exposed, the



since, by assumption, the population  $P_{x/z+1}^{z/z+1}$  varies uniformly from  $z$  to  $z+1$ . If now with respect to the type three parallelogram  $adef$  the additional assumption is made that the number of deaths in the age interval  $(x, x+1)$  in the lower triangle,  $D_a$ , is equal to the number of deaths in the upper triangle,  $D_b$ , or, in other words, that the deaths in each age interval of any calendar year are equally divided between the two generations to which they belong, then

$$D_a = D_b = \frac{1}{2} D_{x/z+1}^{z/z+1}, \quad (23)$$

and it follows directly that

$$q_x^{z/z+1} = \frac{D_{x/z+1}^{z/z+1}}{P_{z+\frac{1}{2}}^{z/z+1} + \frac{1}{2} D_{x/z+1}^{z/z+1}} \\ = \frac{D_{x/z+1}^{z/z+1} / P_{z+\frac{1}{2}}^{z/z+1}}{1 + \frac{1}{2} D_{x/z+1}^{z/z+1} / P_{z+\frac{1}{2}}^{z/z+1}} = \frac{m_x}{1 + \frac{1}{2} m_x}, \quad (24)$$

where  $m_x$ , the central death rate, is defined as the ratio of the deaths during the year to the population in the middle of the year. This is the usual formula employed to calculate the rate of mortality from the statistical aggregates, and it is now clear what assumptions are implied. It is also evident that the formula can not be applied during the early years of life, because  $D_a$  and  $D_b$  are not even approximately equal under age 5.

#### CALCULATION OF NUMBER OF BIRTHS.

106. In order to employ equations (18) and (22) to calculate the rate of mortality during the first five years of life it is necessary to know the number of births,  $E_0$ . Unfortunately, birth registration statistics for most of the areas for which life tables were to be constructed were not sufficiently reliable for this purpose, and it was necessary to determine the number of births from the population and mortality statistics. The method employed is explained by considering the actual process for males in the state of New York. Table 106 gives the reported deaths in the years 1909, 1910, and 1911 for certain age intervals under 5 years.

Table 106

| NUMBER OF REPORTED DEATHS AMONG MALES IN THE STATE OF NEW YORK USED IN COMPUTING NUMBER OF BIRTHS. |                                     |       |       |     |     |
|----------------------------------------------------------------------------------------------------|-------------------------------------|-------|-------|-----|-----|
| Calendar year in which death occurs.                                                               | Age interval in which death occurs. |       |       |     |     |
|                                                                                                    | 0-1                                 | 1-2   | 2-3   | 3-4 | 4-5 |
| 1909                                                                                               | 14,569                              |       |       |     |     |
| 1910                                                                                               | 15,234                              | 3,401 |       |     |     |
| 1911                                                                                               | 14,040                              | 2,993 | 1,320 |     |     |
| 1912                                                                                               | 13,746                              | 2,929 | 1,263 | 725 |     |
| 1913                                                                                               | .....                               | 2,973 | 1,305 | 803 | 615 |

When these deaths of type  $D_{x/z_2}^{z_1/z_2}$  are represented graphically and the numbers inserted in the corresponding parallelograms, the results are as shown in Diagram 15.

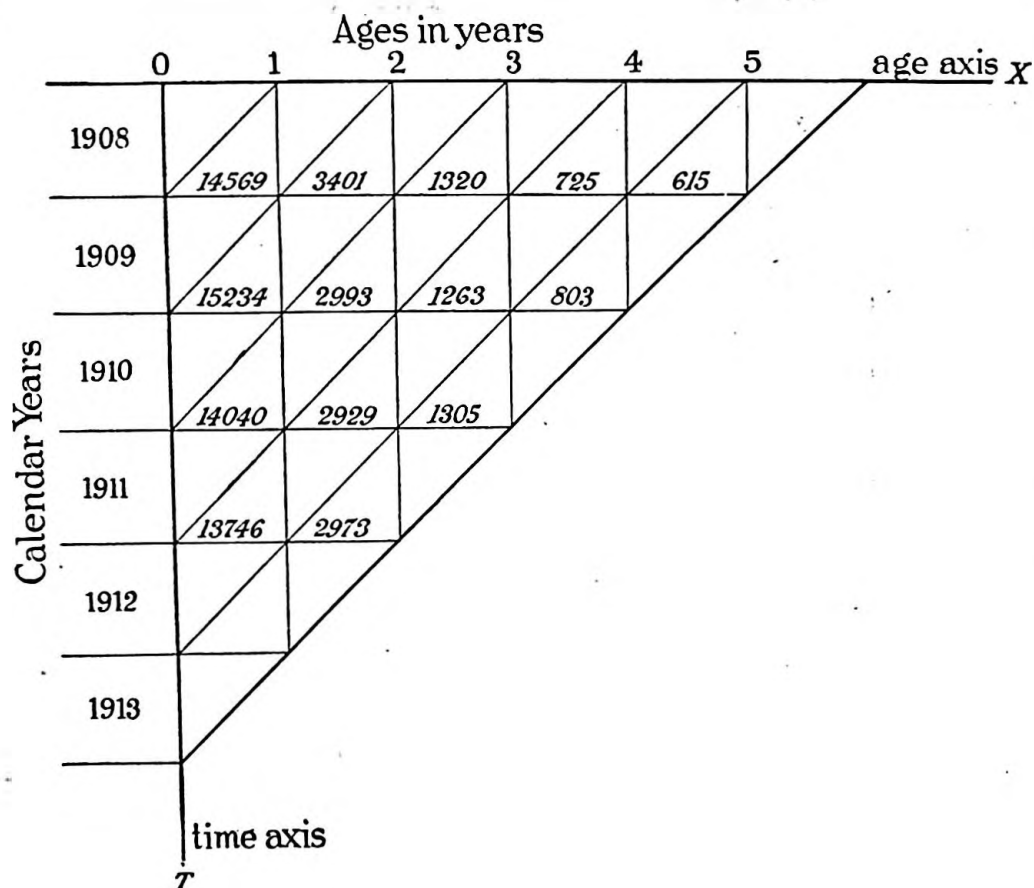


DIAGRAM 15.—GRAPHIC REPRESENTATION OF NUMBER OF DEATHS GIVEN IN TABLE 106.

From the diagram it appears that 14,569 males died under 1 year in 1909, that 2,929 died in 1912 aged 1 year last birthday, 615 died in 1913 aged 4 last birthday, and so on. These aggregates are of type  $D_{z_1/z_2}$  described in section 103, and it will be observed that there are *two* generations corresponding to the deaths in each calendar year. The numbers at the left margin show the calendar year of birth and also the calendar year belonging to each strip beginning at the left-hand edge and running diagonally up and to the right.

The next problem is to determine for each  $D_{z_1/z_2}$  the number of deaths belonging to the later generation and to the earlier generation, respectively. For example, how many of the 14,569 decedents in 1909 under 1 year were born in 1909, the later year, and how many in 1908, the earlier year?

**PERCENTAGE OF DECEDENTS BORN IN EARLIER AND LATER CALENDAR YEARS DERIVED FROM GERMAN MORTALITY STATISTICS.**

107. This question was first answered by investigating the mortality statistics of the German Empire, where, for many states, the deaths are reported for the calendar year by single years of age and by calendar year of birth. On pages 10\* to 13\* of Statistik des Deutschen Reichs, Band 200, there are several tables, based on the actual enumeration of a large number of deaths, showing in graduated form the percentage of deaths belonging to each of the two years of birth. Sections of these tables are reproduced here.

**Table 107**

| GRADUATED PERCENTAGES OF DEATHS IN CALENDAR YEAR ACCORDING TO LATER AND EARLIER CALENDAR YEARS OF BIRTH FOR FIRST TEN YEARLY AGE INTERVALS, BASED ON DEATHS IN PRUSSIA IN YEARS 1901-1905. |                                                              |                                                      |           |                                                              |                                                        |           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|------------------------------------------------------|-----------|--------------------------------------------------------------|--------------------------------------------------------|-----------|
| Age interval in which death occurs.                                                                                                                                                        | Difference between calendar year of death and year of birth. | Percentage of decedents born in later calendar year. |           | Difference between calendar year of death and year of birth. | Percentage of decedents born in earlier calendar year. |           |
|                                                                                                                                                                                            |                                                              | Males.                                               | Females.  |                                                              | Males.                                                 | Females.  |
|                                                                                                                                                                                            |                                                              | Per cent.                                            | Per cent. |                                                              | Per cent.                                              | Per cent. |
| 0-1                                                                                                                                                                                        | 0                                                            | 71.34                                                | 70.38     | 1                                                            | 28.66                                                  | 29.62     |
| 1-2                                                                                                                                                                                        | 1                                                            | 60.71                                                | 61.21     | 2                                                            | 39.29                                                  | 38.79     |
| 2-3                                                                                                                                                                                        | 2                                                            | 53.98                                                | 54.22     | 3                                                            | 46.02                                                  | 45.78     |
| 3-4                                                                                                                                                                                        | 3                                                            | 52.47                                                | 53.15     | 4                                                            | 47.53                                                  | 46.85     |
| 4-5                                                                                                                                                                                        | 4                                                            | 52.32                                                | 52.34     | 5                                                            | 47.68                                                  | 47.60     |
| 5-6                                                                                                                                                                                        | 5                                                            | 51.81                                                | 51.56     | 6                                                            | 48.19                                                  | 48.41     |
| 6-7                                                                                                                                                                                        | 6                                                            | 51.52                                                | 50.94     | 7                                                            | 48.48                                                  | 49.06     |
| 7-8                                                                                                                                                                                        | 7                                                            | 51.29                                                | 50.43     | 8                                                            | 48.71                                                  | 49.57     |
| 8-9                                                                                                                                                                                        | 8                                                            | 51.10                                                | 50.22     | 9                                                            | 48.90                                                  | 49.78     |
| 9-10                                                                                                                                                                                       | 9                                                            | 50.80                                                | 50.23     | 10                                                           | 49.20                                                  | 49.77     |

Referring to Diagram 15, it may be said that if  $D_{z/z+1}$ , or type three parallelogram, is divided into its lower and upper elementary triangles the above Table 107 gives the values of ratios of the deaths in the lower and upper triangles, respectively, to the deaths in the parallelogram. Accordingly, when the number of deaths in the parallelogram is known, the

numbers in the elementary triangles can be obtained by applying the above ratios or percentages.

A similar investigation of the returns of 20 states in 1910<sup>1</sup> and of 14 states in 1911<sup>2</sup> gives the following percentages of deaths in the calendar year falling in the later year of birth:

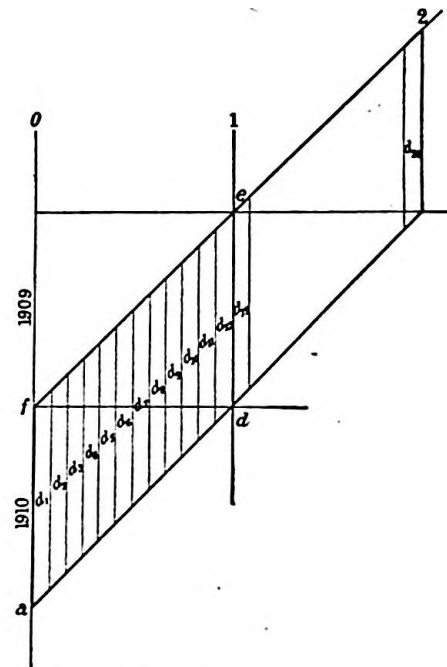
**Table 108**

| Age interval in which death occurs. | Difference between calendar year of death and year of birth. | PERCENTAGE OF DECEDENTS WHO WERE BORN IN LATER CALENDAR YEAR. |           |                 |           |
|-------------------------------------|--------------------------------------------------------------|---------------------------------------------------------------|-----------|-----------------|-----------|
|                                     |                                                              | Deaths in 1910.                                               |           | Deaths in 1911. |           |
|                                     |                                                              | Males.                                                        | Females.  | Males.          | Females.  |
|                                     |                                                              | Per cent.                                                     | Per cent. | Per cent.       | Per cent. |
| 0-1                                 | 0                                                            | 72.13                                                         | 71.01     | 72.88           | 71.73     |
| 1-2                                 | 1                                                            | 60.81                                                         | 60.59     | 63.34           | 63.40     |
| 2-3                                 | 2                                                            | 54.62                                                         | 54.53     | 56.20           | 55.35     |
| 3-4                                 | 3                                                            | 51.74                                                         | 53.49     | 54.46           | 54.40     |
| 4-5                                 | 4                                                            | 53.31                                                         | 52.91     | 53.21           | 53.92     |
| 5-6                                 | 5                                                            | 51.44                                                         | 50.05     | 54.90           | 52.32     |
| 6-7                                 | 6                                                            | 51.16                                                         | 50.27     | 52.02           | 51.91     |
| 7-8                                 | 7                                                            | 51.41                                                         | 48.54     | 53.59           | 52.03     |
| 8-9                                 | 8                                                            | 50.55                                                         | 49.24     | 51.10           | 51.33     |
| 9-10                                | 9                                                            | 49.50                                                         | 51.57     | 51.39           | 55.13     |

These values have not been graduated and are accordingly not so smooth in their progression as those shown in Table 107. However, the tendency and general range is about the same.

**METHOD EMPLOYED TO VERIFY THESE PERCENTAGES.**

108. In order to test these ratios by returns made in this country the following method was employed. Let  $d_1, d_2, d_3, \dots, d_n$  represent the deaths occurring in the corresponding areas in Diagram 16.



**Diagram 16.—Division of Elementary Parallelogram into Months of Age.**

<sup>1</sup> Statistik des Deutschen Reichs, Band 246, pp. 67-69.

<sup>2</sup> Ibid, Band 256, pp. 65-67.

Evidently if the deaths are assumed to be evenly distributed in these elementary strips,  $\frac{23}{24}d_1$  occur among the 1910 generation and  $\frac{1}{24}d_1$  among the 1909 generation. The distribution of  $d_2$  would be  $\frac{21}{24}d_2$  for 1910 and  $\frac{3}{24}d_2$  for 1909, and similarly for the other elementary strips. This leads to the following formula for the number of deaths in the lower triangle *adj*:

$$\frac{1}{24} \sum_{n=1}^{n=12} (25-2n)d_n = \frac{23d_1 + 21d_2 + 19d_3 + \cdots + d_{12}}{24}. \quad (25)$$

When the strips are taken as weeks the formula becomes

$$\frac{1}{104} \sum_{n=1}^{n=52} (105-2n)d_n = \frac{103d_1 + 101d_2 + \cdots + d_{52}}{104}, \quad (26)$$

and when the strips are taken as days it becomes

$$\frac{1}{730} \sum_{n=1}^{n=365} (731-2n)d_n = \frac{729d_1 + 727d_2 + \cdots + d_{365}}{730}. \quad (27)$$

The formula can easily be derived in a similar manner for any combination of days, weeks, months, or other intervals. It is evident that the narrower the elementary strip the better will be the approximation to the true value. The percentage itself is, of course, obtained by dividing formulas (25), (26), and (27) by the total number of deaths in the parallelogram. For monthly strips the formula for the percentage born in the *later* calendar year is

$$\frac{\frac{1}{24} \sum_{n=1}^{n=12} (25-2n)d_n}{\sum_{n=1}^{n=12} d_n} = \frac{1}{24} \frac{23d_1 + 21d_2 + \cdots + d_{12}}{d_1 + d_2 + \cdots + d_{12}}. \quad (28)$$

For every year since 1900, with the exception of 1902, 1903, and 1904, mortality statistics by sex for each month of age during the first year of life are available for the original registration states;<sup>1</sup> for the calendar year 1910 this information is given by months of age through the second year of life, although not for males and females separately, for the registration area

<sup>1</sup> For the years 1900, 1901, and 1905 this information is given on pp. 630 to 660 of Mortality Statistics, 1908; for the years 1906, 1907, 1908, and 1909, on pp. 780 to 792 of Mortality Statistics, 1909; for the year 1910, on pp. 598-599 of Mortality Statistics, 1910. After 1910 these statistics were obtained from manuscript.

of 1910.<sup>2</sup> Numerous tests were made by the above method with these statistics and the percentages found to be in substantial agreement for the first and second years with those derived from the German statistics. The percentage factors for decedents born in the later calendar year among native white, both parents native, derived from equation (28) applied to total deaths by months under 1 year for the calendar years 1900 to 1901 and 1905 to 1910, are for males 72.12 and for females 70.65. The factor for age interval 1-2 derived from both sexes in the registration area in 1910 is 59.68. The factor for Ohio is 58.84 and for Pennsylvania 59.09. No statistics are given, however, which could be employed to test the percentages for the third, fourth, and fifth years of life.

#### PERCENTAGES ADOPTED AND CALCULATION OF NUMBER OF BIRTHS FROM POPULATION AND DEATH STATISTICS.

109. As a result of the investigations just described the following percentages were chosen as representing mortality distribution in this country during the first five years of life. It will be observed that a small variation one way or the other in the choice of these figures would make very little difference in the results obtained by their use in deriving the number of births in the various areas for which life tables are constructed.

Table 109

| PERCENTAGES OF DEATHS IN CALENDAR YEAR ACCORDING TO <i>LATER</i> AND <i>EARLIER</i> YEARS OF BIRTH FOR FIRST FIVE YEARLY AGE INTERVALS, EMPLOYED IN COMPUTING BIRTHS FOR UNITED STATES LIFE TABLES. |                                                              |                                                             |           |                                                              |                                                               |           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------|-----------|--------------------------------------------------------------|---------------------------------------------------------------|-----------|
| Age interval in which death occurs.                                                                                                                                                                 | Difference between calendar year of death and year of birth. | Percentage of decedents born in <i>later</i> calendar year. |           | Difference between calendar year of death and year of birth. | Percentage of decedents born in <i>earlier</i> calendar year. |           |
|                                                                                                                                                                                                     |                                                              | Males.                                                      | Females.  |                                                              | Males.                                                        | Females.  |
|                                                                                                                                                                                                     |                                                              | Per cent.                                                   | Per cent. |                                                              | Per cent.                                                     | Per cent. |
| 0-1                                                                                                                                                                                                 | 0                                                            | 72                                                          | 71        | 1                                                            | 28                                                            | 29        |
| 1-2                                                                                                                                                                                                 | 1                                                            | 59                                                          | 59        | 2                                                            | 41                                                            | 41        |
| 2-3                                                                                                                                                                                                 | 2                                                            | 53                                                          | 53        | 3                                                            | 47                                                            | 47        |
| 3-4                                                                                                                                                                                                 | 3                                                            | 52                                                          | 52        | 4                                                            | 48                                                            | 48        |
| 4-5                                                                                                                                                                                                 | 4                                                            | 52                                                          | 52        | 5                                                            | 48                                                            | 48        |

When these percentages are applied to the deaths in the parallelograms of Diagram 15 the result is to apportion them to their corresponding elementary triangles. For example, 28 per cent of 14,569 is 4,079 to the nearest integer, and 72 per cent of 14,569 is 10,490.

<sup>2</sup> Bureau of the Census, Bulletin 109, Mortality Statistics: 1910, pp. 154, 155.



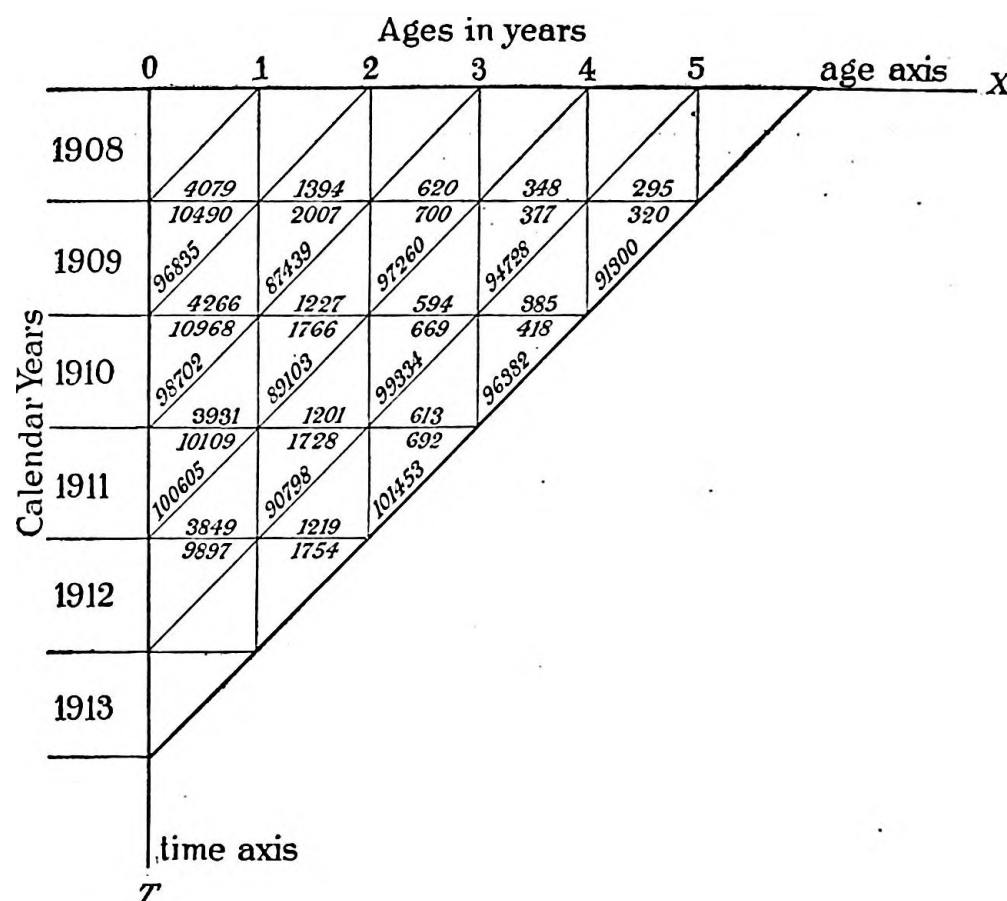


DIAGRAM 17.—APPLICATION OF FACTORS IN TABLE 109 TO DEATHS IN DIAGRAM 15; ALSO INSERTION OF CORRESPONDING POPULATIONS FROM TAPE 139, PAGE 373.

Diagram 17 shows the new distribution: 4,079 is entered just above and 10,490 just below the horizontal line which divides the corresponding parallelogram into its two elementary triangles. A study of this diagram shows that it is possible to follow the progress of each generation. For example, of the 14,569 deaths that occurred in 1909 under 1 year, 10,490 were born in 1909; of the 15,234 deaths in 1910 under 1 year, 4,266 were born in 1909. Likewise, of the 3,401 deaths in 1910 aged 1 last birthday, 2,007 were of persons belonging to the 1909 generation; and of the 2,993 deaths in 1911 between 1 and 2 years of age, 1,227 belonged to the 1909 generation. In short, all the deaths occurring among persons born in 1909 must be in the triangles lying between the two horizontal lines inclosing the year 1909.

In order to determine the number of births in a given calendar year, it is necessary to know the number of deaths among those born in that calendar year and the number of survivors at the end of the calendar year. Accordingly, on the lower of the two diagonal lines, between which the calendar year is written, the populations on December 31 of that year are entered. The population between any two years of age, that is, in any age interval, is written on that section of the diagonal line intercepted between the two vertical lines inclosing the age interval. For example,

the population on December 31, 1909, taken from tape 139, page 373, between birth and 1 year of age is 96,835, and this number appears in Diagram 17 on the lower of the two diagonal lines between which 1909 is written and on the section inclosed by the two vertical lines at whose tops appear the ages 0 and 1, respectively. Likewise, the population on December 31, 1910, between 1 and 2 years of age, that is, in age interval 1-2, is 87,439, and this number appears in Diagram 17 on the lower of the two diagonal lines between which 1910 is written and between the two vertical lines at whose tops appear the ages 1 and 2, respectively.

Since on December 31, 1909, there were 96,835 infants under 1 year of age still alive, while 10,490 of those born in 1909 died during that year, the total number of births during 1909 should be the sum of 96,835 and 10,490, or 107,325. This determines the number of births in 1909 from the population and deaths under 1 year of age. The number of births in 1909 may also be determined from the population aged 1 to 2 years on December 31, 1910, and the deaths under 2 years of age among males who were born in 1909. Diagram 17 shows the number of births in this case to be  $87,439 + 10,490 + 4,266 + 2,007 = 104,202$ . Similarly, from the population between 2 and 3 years of age on December 31, 1911, and the deaths among

males under 3 years of age who were born in 1909, the number of male births in 1909 appears to be  $97,260 + 10,490 + 4,266 + 2,007 + 1,227 + 700 = 115,950$ . Starting with the male population in age interval 3-4 on December 31, 1912, and again with the male population in age interval 4-5 on December 31, 1913, and adding the corresponding deaths occurring in the 1909 generation, the male births in 1909 are found to be 114,389 and 111,666, respectively.

**POPULATIONS UNDER 2 YEARS NOT EMPLOYED TO CALCULATE NUMBER OF BIRTHS.**

110. Since the deaths for 1914 were not available when these calculations were made, the births for 1910 could be derived only from the populations in age intervals 0-1, 1-2, 2-3, and 3-4 years, and these births were, respectively, 109,670, 105,766, 117,869, and 115,948. Likewise, the births for 1911 could be derived only from the populations in age intervals 0-1, 1-2, and 2-3, and these births were, respectively, 110,714, 106,484, and 119,050. Table 110 sets forth the results in systematic form.

**Table 110**

| NUMBER OF MALE BIRTHS IN THE STATE OF NEW YORK IN 1909, 1910, AND 1911,<br>DERIVED FROM THE POPULATION AND MORTALITY STATISTICS. |                                                            |         |         |         |         |
|----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|---------|---------|---------|---------|
| Calendar year of birth.                                                                                                          | Age interval of population from which births were derived. |         |         |         |         |
|                                                                                                                                  | 0-1                                                        | 1-2     | 2-3     | 3-4     | 4-5     |
| 1909                                                                                                                             | 107,325                                                    | 104,202 | 115,950 | 114,389 | 111,666 |
| 1910                                                                                                                             | 109,670                                                    | 105,766 | 117,869 | 115,948 |         |
| 1911                                                                                                                             | 110,714                                                    | 106,484 | 119,050 |         |         |

A study of this table shows that the numbers of births derived from the populations aged 2-3, 3-4, and 4-5 years, respectively, are considerably higher than those derived from populations in age intervals 0-1 and 1-2, respectively. A review of the population statistics of the United States and also those of many foreign countries shows that the populations under 2 years of age are generally understated, especially the population between 1 and 2 years of age. In the Supplement to the Seventy-fifth Annual Report of the Registrar-General, Part I, Life Tables, pages 10 to 13, it is shown that in the populations enumerated in England and Wales on March 31, 1901, and on April 2, 1911, those for ages 2-3, 3-4, and 4-5 are substantially in agreement with those derived from births and deaths alone, while those for ages 0-1 and 1-2 fall far short of those derived from births and deaths alone, the conclusion being that many infants under 2 years of age are not enumerated in the census. It is not intended to discuss here the reasons for these understatements of infant populations.

Accordingly it was decided to use only the number of births derived from populations aged 2-3, 3-4, and 4-5 years in determining the number of births for

the period 1909-1911. In order to give equal weight in this determination to the populations at these three ages, the sum of the births in 1909 derived from populations aged 4-5, in 1910 derived from populations aged 3-4, and in 1911 derived from populations aged 2-3 was used as the number of births during the three-year period. Referring to Table 110, this sum is seen to be  $111,666 + 115,948 + 119,050 = 346,664$ .

For each of the three calendar years 1900, 1901, and 1902 the average number of births computed from the populations aged 2-3, 3-4, and 4-5 was taken as the number of births for the year. Then the number of births for the three calendar years was taken as the sum of these values. In the same way, for each of the calendar years in the decennium 1901 to 1910, the computed number of births was taken as the average of the three computed from the populations aged 2-3, 3-4, and 4-5, respectively. Then the sum of these averaged computed number of births for each of the ten calendar years was used in the calculation of rates of mortality for the life tables.

The same method was adopted for the two 1890 Massachusetts tables, and it was assumed that populations and deaths remained the same for the five calendar years beginning June 1, 1889. This assumption was made necessary because there were no original statistics upon which to estimate the change in the number of deaths year by year from 1889 to 1894.

For males and females, Massachusetts in 1901 and 1910, Boston in 1901 and 1910, New York City in 1910, and Philadelphia in 1910, the birth registration statistics were employed instead of computed number of births based on population and mortality statistics. In all these cases the registered and computed number of births were in close agreement. Table 136, showing the computed number of births and the number of births registered, when reported, and the difference between them, is shown on page 425.

**CALCULATION OF RATES OF MORTALITY FOR SINGLE YEARS UNDER 5 YEARS OF AGE.**

111. In determining the rates of infant mortality by months under 1 year and by single years under 5 years of age, equation (18), slightly modified for purposes of computation, was employed. When  $\xi = 1$  and  $\frac{1}{2}\delta_{x+1/z+2}^{z_1/z_2}$  is subtracted from both sides of equation (18), it becomes

$$E_{x+1}^{t_1/t_2} - \frac{1}{2}\delta_{x+1/z+2}^{z_1/z_2} = E_x^{t_1/t_2} - \frac{1}{2}\delta_{x/z+1}^{z_1/z_2} - D_{x/z+1}^{z_1/z_2} - \frac{\delta_{x/z+1}^{z_1/z_2} + \delta_{x+1/z+2}^{z_1/z_2}}{2} \quad (29)$$

The interval  $(z_1, z_2)$  is the same as that of mortality statistics upon which the life table is based. With all superscripts and the second subscripts of  $\delta$  and  $D$

dropped for brevity, and with  $x=0, 1, 2, 3$ , and  $4$ , the equations are as follows:

$$\begin{aligned} E_1 - \frac{1}{2}\delta_1 &= E_0 - \frac{1}{2}\delta_0 - D_0 - \frac{\delta_0 + \delta_1}{2} \\ E_2 - \frac{1}{2}\delta_2 &= E_1 - \frac{1}{2}\delta_1 - D_1 - \frac{\delta_1 + \delta_2}{2} \\ E_3 - \frac{1}{2}\delta_3 &= E_2 - \frac{1}{2}\delta_2 - D_2 - \frac{\delta_2 + \delta_3}{2} \\ E_4 - \frac{1}{2}\delta_4 &= E_3 - \frac{1}{2}\delta_3 - D_3 - \frac{\delta_3 + \delta_4}{2} \end{aligned} \quad (30)$$

Beginning with the known value of  $E_0$ , the number of births registered or the computed number of births, the left-hand members of (30) are readily determined, since  $\delta_0, \delta_1, \delta_2, \delta_3, \delta_4$ , and  $D_0, D_1, D_2, D_3, D_4$  are known. When these are found, equation (22) is employed to compute the rate of mortality. Table 111 exhibits the process of the calculation.

Table 111

| Age interval $x$ to $x+1$ years. | Estimated population, December 31— |         | Increase in population $\delta_x$ | $\frac{\delta_x + \delta_{x+1}}{2}$ | Deaths in the three-year period 1909-1911 $D_x$ | $E_x - \frac{1}{2}\delta_x$ | $q_x = \frac{D_x}{E_x - \frac{1}{2}\delta_x}$ |
|----------------------------------|------------------------------------|---------|-----------------------------------|-------------------------------------|-------------------------------------------------|-----------------------------|-----------------------------------------------|
|                                  | 1908                               | 1911    |                                   |                                     |                                                 |                             |                                               |
| 0-1                              | 95,004                             | 100,605 | 5,601                             | 5,250                               | 43,843                                          | 343,863                     | .127501                                       |
| 1-2                              | 84,205                             | 89,103  | 4,898                             | 5,433                               | 9,917                                           | 294,770                     | .033643                                       |
| 2-3                              | 91,293                             | 97,260  | 5,967                             | 5,338                               | 4,349                                           | 279,420                     | .015561                                       |
| 3-4                              | 88,394                             | 93,103  | 4,709                             | 4,204                               | 2,510                                           | 269,733                     | .009305                                       |
| 4-5                              | 85,046                             | 88,745  | 3,699                             | .....                               | 1,723                                           | 263,019                     | .006551                                       |

The value of  $E_0 = 346,664$ , found in the preceding section, when reduced by  $\frac{1}{2}\delta_0 = 2,801$ , gives  $343,863$  for  $E_0 - \frac{1}{2}\delta_0$ . Then  $E_1 - \frac{1}{2}\delta_1$  is determined by the first equation in (30) to be equal to  $343,863 - 43,843 - 5,250 = 294,770$ , and in a similar manner the remaining values in this column are obtained, and the numbers in the preceding column divided by the corresponding ones in this column give the mortality rates in the last column.

#### CALCULATION OF MONTHLY RATES OF MORTALITY UNDER 1 YEAR.

112. In calculating the monthly rates of mortality under 1 year the same method was employed. The census returns for June 1, 1900, and for April 15, 1910, do not show the population by months under 1 year of age. Consequently, for ages by months under 1 year, the increase in population in the three-year interval was assumed to be uniformly distributed under 1 year of age, and the monthly increase,  $\delta_x^{(12)}$ , was taken to be one-twelfth of the  $\delta_x$  previously employed for the age

interval 0-1 year. Since 5,601 is not exactly divisible by 12, the quotient being  $466\frac{9}{12}$ ,  $\delta_x^{(12)}$  for months 0, 1, 2, . . . 8 was taken as 467, while that for months 9 to 11 was taken equal to 466. Hence  $\frac{1}{2}(\delta_x^{(12)} + \delta_{x+1}^{(12)})$  equals 467 up to and including the ninth month, since  $(467+466)/2$  is set equal to 467.

The sum of the deaths for the three-year period 1909-1911 for age intervals of 1 month under 1 year of age were needed in this computation, but the original statistics in most cases were so rough that some adjustment was found necessary. This adjustment was made graphically instead of employing a mathematical formula, and in such manner that the sum of the deaths under 1 year was left unchanged. The original statistics were plotted on a large sheet, the ordinates being the number of deaths for monthly age intervals under 1 year. This work is shown in Graph 136, page 371. Beginning with the age interval 1-2 months, in which the number of deaths was left unchanged, a smooth curve was drawn in such manner with respect to the remaining ten ordinates as to leave the sum of the deaths under 1 year unchanged. Table 112 gives the original and adjusted number of deaths and indicates the process used in obtaining the monthly rates of mortality.

Table 112

| Age interval $x$ to $x+1$ months. | Increase in population $\delta_x^{(12)}$ | $\frac{\delta_x^{(12)} + \delta_{x+1}^{(12)}}{2}$ | Deaths in the three-year period 1909-1911. |                       | $E_x^{(12)} - \frac{1}{2}\delta_x^{(12)}$ | $q_x^{(12)} = \frac{D_x^{(12)}}{E_x^{(12)} - \frac{1}{2}\delta_x^{(12)}}$ |
|-----------------------------------|------------------------------------------|---------------------------------------------------|--------------------------------------------|-----------------------|-------------------------------------------|---------------------------------------------------------------------------|
|                                   |                                          |                                                   | Original $D_x^{(12)}$                      | Adjusted $D_x^{(12)}$ |                                           |                                                                           |
| 0-1                               | 467                                      | 467                                               | 16,404                                     | 16,404                | 346,430                                   | .047352                                                                   |
| 1-2                               | 467                                      | 467                                               | 4,449                                      | 4,449                 | 329,559                                   | .013500                                                                   |
| 2-3                               | 467                                      | 467                                               | 3,571                                      | 3,715                 | 324,643                                   | .011443                                                                   |
| 3-4                               | 467                                      | 467                                               | 3,045                                      | 3,151                 | 320,461                                   | .009833                                                                   |
| 4-5                               | 467                                      | 467                                               | 2,671                                      | 2,740                 | 316,843                                   | .008648                                                                   |
| 5-6                               | 467                                      | 467                                               | 2,383                                      | 2,424                 | 313,636                                   | .007729                                                                   |
| 6-7                               | 467                                      | 467                                               | 2,272                                      | 2,168                 | 310,745                                   | .006977                                                                   |
| 7-8                               | 467                                      | 467                                               | 2,038                                      | 1,978                 | 308,110                                   | .006420                                                                   |
| 8-9                               | 467                                      | 467                                               | 1,939                                      | 1,835                 | 305,665                                   | .006003                                                                   |
| 9-10                              | 466                                      | 466                                               | 1,849                                      | 1,729                 | 303,363                                   | .005699                                                                   |
| 10-11                             | 466                                      | 466                                               | 1,580                                      | 1,650                 | 301,168                                   | .005479                                                                   |
| 11-12                             | 466                                      | .....                                             | 1,642                                      | 1,600                 | 299,052                                   | .005350                                                                   |

Eleven equations of the same type as (30) are now employed to determine the monthly rates of mortality, where the symbols  $E^{(12)}$ ,  $\delta^{(12)}$ , and  $D^{(12)}$  refer to months instead of to years. As before,  $E_0^{(12)} = 346,664$ , and this reduced by  $\frac{1}{2}\delta_0^{(12)} = 234$  gives the number exposed to risk,  $E_0^{(12)} - \frac{1}{2}\delta_0^{(12)} = 346,430$ . Then  $E_1^{(12)} - \frac{1}{2}\delta_1^{(12)} = 346,430 - 16,404 - 467 = 329,559$ .

Similarly,  $E_{12}^{(12)} - \frac{1}{2}\delta_{12}^{(12)} = 329,559 - 4,449 - 467 = 324,643$ , and finally,  $E_{11}^{(12)} - \frac{1}{2}\delta_{11}^{(12)} = 301,168 - 1,650 - 466 = 299,052$ . Monthly rates of mortality are then obtained by means of equation (22). It will be seen that this rate is about 47.35 per 1,000 for the first monthly age interval, 0-1, and that it reduces to 5.35 per 1,000 for the last or twelfth monthly age interval, 11-12. It is evident that if the original unadjusted rates of mortality had been used in this computation the rate would have been rough and uneven and the rate for the twelfth month would have been higher than that for the eleventh month. It is on this account that the observed deaths were first adjusted by a graphical process.

#### DERIVATION OF THE OSCULATORY FIFTH DIFFERENCE FORMULA.<sup>1</sup>

113. In determining the rates of mortality for single years of age from 4 years to about 100 years, the populations and deaths in each of the single years of age were first obtained by application of the fifth difference osculatory interpolation formula to the populations and deaths summed in quinquennial age groups. From these interpolated and graduated populations and deaths for single ages the rates of mortality were computed by equation (24).

One of the chief difficulties met with in adjusting rough data by the usual interpolation formulas is that at points where the interpolation curves meet there are sudden breaks in the values of the first differences. Various methods have been employed to effect a smooth junction or welding of these interpolation curves. The osculatory method of interpolation is based on certain fundamental assumptions which necessarily assure a smooth junction. The idea is to join two successive interpolation curves so that for a certain abscissa they shall have a common ordinate, tangent, and radius of curvature. This is accomplished by making their first and second derivatives equal, respectively, at the point of intersection deter-

mined by the abscissa and common ordinate. Since the chief part of the life table construction has been based on this method, the derivation of the fifth difference osculatory formula is given here.

It is proposed to determine an osculatory interpolation curve of the fifth degree of the form

$$y_x = (1 - c_x)u_x + c_x v_x, \quad (31)$$

where  $c_x$  is a rational algebraic function of  $x$ , and  $u_x$  and  $v_x$  are defined as follows:

$$u_x = u_{-2+(x+2)} = u_{-2} + \frac{x+2}{1}\Delta u_{-2} + \frac{(x+2)(x+1)}{2}\Delta^2 u_{-2} + \frac{(x+2)(x+1)x}{3}\Delta^3 u_{-2} + \frac{(x+2)(x+1)x(x-1)}{4}\Delta^4 u_{-2}, \quad (32)$$

and

$$v_x = v_{-1+(x+1)} = u_{-1} + \frac{x+1}{1}\Delta u_{-1} + \frac{(x+1)x}{2}\Delta^2 u_{-1} + \frac{(x+1)x(x-1)}{3}\Delta^3 u_{-1} + \frac{(x+1)x(x-1)(x-2)}{4}\Delta^4 u_{-1}. \quad (33)$$

Since  $u_{-1} = u_{-2} + \Delta u_{-2}$  and  $\Delta^s u_{-1} = \Delta^s u_{-2} + \Delta^{s+1} u_{-2}$ , it follows readily that

$$v_x = u_x + \frac{(x+1)x(x-1)(x-2)}{4}\Delta^5 u_{-2}. \quad (34)$$

Referring to equations (32) and (33) and to Diagram (18), it appears that  $u_x$  and  $v_x$  are rational integral functions of  $x$  of the fourth degree, passing through the ends of the first and last five, respectively, of the six ordinates  $u_{-2}, u_{-1}, u_0, u_1, u_2$ , and  $u_3$ . These two curves, therefore, intersect in the four points  $(-1, u_{-1})$ ,  $(0, u_0)$ ,  $(1, u_1)$ , and  $(2, u_2)$ . Since by equation (31) the curve  $y_x$  passes through any point common to  $u_x$  and  $v_x$ , it must also pass through the above four points.

Let

$$y_x = u_x + \psi_x, \quad (35)$$

where  $\psi_x$  is a rational integral function of  $x$  of the fifth degree. Then at the origin,  $x=0$ , assume that  $y_x$  and  $u_x$ , together with their first and second derivatives, are equal, respectively, and also at the point  $x=1$  that  $y_x$  and  $v_x$ , together with their first and second derivatives, are equal, respectively. Accordingly,

$$y_0 = u_0, \quad y'_0 = u'_0, \quad y''_0 = u''_0 \quad (36)$$

and

$$y_1 = v_1, \quad y'_1 = v'_1, \quad y''_1 = v''_1. \quad (37)$$

The relations (35) and (36) show that  $\psi_0 = \psi'_0 = \psi''_0 = 0$ . Hence  $\psi_x$  contains the factor  $x^3$ , while equations (34), (35), and the first one in (37) show that  $\psi_1 = 0$ , so that  $\psi_x$  contains the factor  $x-1$ .

<sup>1</sup> For a full treatment of the theory of osculatory interpolation the following references are given:

Explanation of a New Formula for Interpolation. Thomas Bond Sprague. Journal of the Institute of Actuaries, vol. 22, p. 270.

On a New Mechanical Method of Graduation. Johannes Karup. Transactions of the Second International Actuarial Congress, p. 78.

On the Construction of Mortality Tables from Census Returns and Records of Deaths. George King. Journal of the Institute of Actuaries, vol. 42, p. 225.

On a New Method of Constructing and of Graduating Mortality and Other Tables. George King. Journal of the Institute of Actuaries, vol. 43, p. 109.

Osculatory Interpolation by Central Differences; with an Application to Life Table Construction. James Buchanan. Journal of the Institute of Actuaries, vol. 42, p. 369.

Alternative Demonstration of the Formula for Osculatory Interpolation. George J. Lidstone. Journal of the Institute of Actuaries, vol. 42, p. 394.

Derivation of the United States Mortality Table by Osculatory Interpolation. James W. Glover. Quarterly Publication of the American Statistical Association, vol. 12, p. 85.

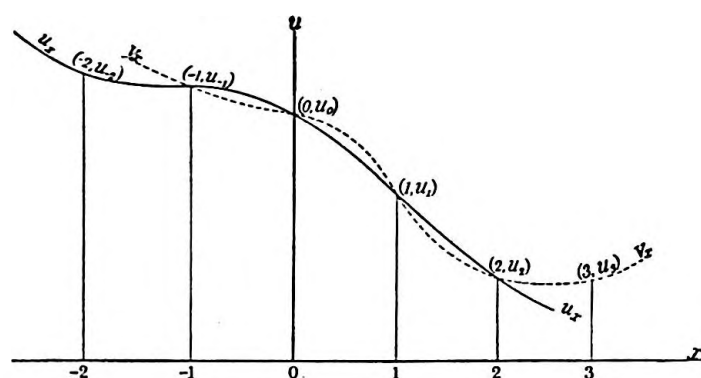


DIAGRAM 18.—ILLUSTRATING PROOF OF FORMULA FOR OSCULATORY INTERPOLATION.

From equations (34) and (35)

$$\begin{aligned} y_x - v_x &= \psi_x - \frac{(x+1)x(x-1)(x-2)}{4} \Delta^5 u_{-2} \\ &= \psi_x - (x^4 - 2x^3 - x^2 + 2x) \frac{\Delta^5 u_{-2}}{4}, \end{aligned}$$

and since by (37),  $y_1' - v_1' = 0$  and  $y_1'' - v_1'' = 0$ ,

$$\psi_1' = (4x^3 - 6x^2 - 2x + 2)_{x=1} \frac{\Delta^5 u_{-2}}{4} = -\frac{2\Delta^5 u_{-2}}{4},$$

$$\psi_1'' = (12x^2 - 12x - 2)_{x=1} \frac{\Delta^5 u_{-2}}{4} = -\frac{2\Delta^5 u_{-2}}{4},$$

it follows, if

$$\psi_x = x^3(x-1)(a_0x + a_1) \frac{\Delta^5 u_{-2}}{4},$$

that

$$a_0 + a_1 = -2 \text{ and } 4a_0 + 3a_1 = -1.$$

Hence

$$\psi_x = x^3(x-1)(5x-7) \frac{\Delta^5 u_{-2}}{4},$$

and the required osculatory interpolation curve of the fifth degree is

$$\begin{aligned} y_x &= u_{-2} + \frac{x+2}{1} \Delta u_{-2} + \frac{(x+2)(x+1)}{2} \Delta^2 u_{-2} \\ &+ \frac{(x+2)(x+1)x}{3} \Delta^3 u_{-2} + \frac{(x+2)(x+1)x(x-1)}{4} \Delta^4 u_{-2} \\ &+ \frac{x^3(x-1)(5x-7)}{4} \Delta^5 u_{-2}. \end{aligned} \quad (38)$$

An examination of the steps in the derivation of the osculatory fifth difference formula shows that when the original statistical ordinates are given,  $u_{-2}$ ,  $u_{-1}$ ,  $u_0$ ,  $u_1$ ,  $u_2$ ,  $u_3$ ,  $u_4$ , . . .  $u_t$ , successive groups of

five, beginning with  $u_{-2}$ , determine a corresponding succession of curves  $u_x$ ,  $v_x$ ,  $w_x$ , and so on, which in turn are employed to fix the values of the tangent and the radius of curvature at certain points on the fifth difference osculatory curve  $y_x$ . Moreover, since  $v_x$ , for example, is employed with  $u_x$  to define these values at the point  $(1, u_1)$  on the osculatory fifth difference interpolation curve  $y_x$  for the interval  $(0, 1)$  and with  $w_x$  to define these values at the point  $(1, u_1)$  on the osculatory fifth difference interpolation curve  $y_x$  for the next interval  $(1, 2)$ , it follows that these two  $y_x$  curves will have a smooth junction at  $(1, u_1)$  because they have a common ordinate,  $u_1$ , a common tangent, same as  $v_x$ , and a common radius, same as  $v_x$ , at this point.

In order to adapt the notation to this succession of  $y_x$  curves, the equation (38) is written in the following form:

$$\begin{aligned} y_z &= y_{n+z+2} = y_n + \frac{x+2}{1} \Delta y_n + \frac{(x+2)(x+1)}{2} \Delta^2 y_n \\ &+ \frac{(x+2)(x+1)x}{3} \Delta^3 y_n + \frac{(x+2)(x+1)x(x-1)}{4} \Delta^4 y_n \\ &+ \frac{x^3(x-1)(5x-7)}{4} \Delta^5 y_n, \end{aligned} \quad (39)$$

where  $z = n + 2 + x$  and the symbol  $n$  denotes any integral number, including 0, and  $x$  any fraction less than unity. This is the osculatory formula for writing the values of the function for fractional values of  $z$ , which lie between the integral values  $n + 2$  and  $n + 3$ , in terms of  $y_n$  and its five leading integral differences. Five years is taken as the unit of time, and the values of  $T_x$  and  $l_x$  at ages 4, 9, 14 . . . years are used as the known values of the function at the integral values of time between which four values of the function are to be interpolated at the fractional values of time .2, .4, .6, and .8, or, in other words,  $T_x$  and  $l_x$  for the four single years within each quinquennial group, such as 4-8, 9-13, and so on.

#### LEADING FRACTIONAL DIFFERENCES IN TERMS OF LEADING INTEGRAL DIFFERENCES.

114. To obtain the equations for the function at these four fractional values of  $z$ , these values, .2, .4, .6, and .8, are substituted for  $x$  in equation (39). These four equations, together with the two equations for the boundary values,  $x = 0$  and  $x = 1$ , when differenced five times, give five leading fractional differences of  $y_n$  in terms of its leading integral differences, and the results are set forth in Table 113.

Table 113

| DERIVATION OF LEADING FRACTIONAL DIFFERENCES IN TERMS OF LEADING INTEGRAL DIFFERENCES. |       |              |                |                |                |                |         |
|----------------------------------------------------------------------------------------|-------|--------------|----------------|----------------|----------------|----------------|---------|
|                                                                                        | $y_n$ | $\Delta y_n$ | $\Delta^2 y_n$ | $\Delta^3 y_n$ | $\Delta^4 y_n$ | $\Delta^5 y_n$ |         |
| $y_{n+1}$                                                                              | -     | +1           | +2.0           | +1.00          | 0.000          | 0.0000         | 0.0000  |
| $y_{n+2}$                                                                              | -     | +1           | +2.2           | +1.32          | +0.068         | -0.0176        | +0.0016 |
| $y_{n+3}$                                                                              | -     | +1           | +2.4           | +1.68          | +0.224         | -0.0336        | +0.0080 |
| $y_{n+4}$                                                                              | -     | +1           | +2.6           | +2.08          | +0.416         | -0.0416        | +0.0144 |
| $y_{n+5}$                                                                              | -     | +1           | +2.8           | +2.52          | +0.672         | -0.0336        | +0.0128 |
| $y_{n+6}$                                                                              | -     | +1           | +3.0           | +3.00          | +1.000         | 0.0000         | 0.0000  |
| <i>First differences.</i>                                                              |       |              |                |                |                |                |         |
| $\delta y_{n+1}$                                                                       | -     | 0            | +0.2           | +0.32          | +0.068         | -0.0176        | +0.0016 |
| $\delta y_{n+2}$                                                                       | -     | 0            | +0.2           | +0.36          | +0.136         | -0.0160        | +0.0064 |
| $\delta y_{n+3}$                                                                       | -     | 0            | +0.2           | +0.40          | +0.192         | -0.0080        | +0.0064 |
| $\delta y_{n+4}$                                                                       | -     | 0            | +0.2           | +0.44          | +0.256         | +0.0080        | -0.0016 |
| $\delta y_{n+5}$                                                                       | -     | 0            | +0.2           | +0.48          | +0.328         | +0.0336        | -0.0128 |
| <i>Second differences.</i>                                                             |       |              |                |                |                |                |         |
| $\delta^2 y_{n+1}$                                                                     | -     | 0            | 0              | +0.04          | +0.048         | +0.0016        | +0.0048 |
| $\delta^2 y_{n+2}$                                                                     | -     | 0            | 0              | +0.04          | +0.056         | +0.0080        | 0.0000  |
| $\delta^2 y_{n+3}$                                                                     | -     | 0            | 0              | +0.04          | +0.064         | +0.0160        | -0.0080 |
| $\delta^2 y_{n+4}$                                                                     | -     | 0            | 0              | +0.04          | +0.072         | +0.0256        | -0.0112 |
| <i>Third differences.</i>                                                              |       |              |                |                |                |                |         |
| $\delta^3 y_{n+1}$                                                                     | -     | 0            | 0              | 0              | +0.008         | +0.0064        | -0.0048 |
| $\delta^3 y_{n+2}$                                                                     | -     | 0            | 0              | 0              | +0.008         | +0.0080        | -0.0080 |
| $\delta^3 y_{n+3}$                                                                     | -     | 0            | 0              | 0              | +0.008         | +0.0096        | -0.0032 |
| <i>Fourth differences.</i>                                                             |       |              |                |                |                |                |         |
| $\delta^4 y_{n+1}$                                                                     | -     | 0            | 0              | 0              | 0              | +0.0016        | -0.0032 |
| $\delta^4 y_{n+2}$                                                                     | -     | 0            | 0              | 0              | 0              | +0.0016        | +0.0048 |
| <i>Fifth difference.</i>                                                               |       |              |                |                |                |                |         |
| $\delta^5 y_{n+1}$                                                                     | -     | 0            | 0              | 0              | 0              | 0              | +0.0080 |

In this table  $y_n$  and each of its first five leading integral differences head columns in which are written the corresponding coefficients in the equations for the fractional differences appearing on the left. For example,

$$\delta^2 y_{n+2.4} = .04\Delta^2 y_n + .064\Delta^3 y_n + .0160\Delta^4 y_n - .0080\Delta^5 y_n.$$

Table 113 shows that the leading fractional differences of  $y_{n+2}$  can be expressed in terms of the leading unit differences of  $y_n$ . These equations are so important that they are brought together for reference.

Equations (40)

|                    |   | $\Delta y_n$ | $\Delta^2 y_n$ | $\Delta^3 y_n$ | $\Delta^4 y_n$ | $\Delta^5 y_n$ |
|--------------------|---|--------------|----------------|----------------|----------------|----------------|
| $\delta y_{n+1}$   | - | + .2         | + .32          | + .088         | -. 0176        | + .0016        |
| $\delta^2 y_{n+1}$ | - |              | + .04          | + .048         | + .0016        | + .0048        |
| $\delta^3 y_{n+1}$ | - |              |                | + .008         | + .0064        | -. 0048        |
| $\delta^4 y_{n+1}$ | - |              |                |                | + .0016        | -. 0032        |
| $\delta^5 y_{n+1}$ | - |              |                |                |                | + .0080        |

They are frequently employed in connection with life tables to calculate the leading single year differences in terms of the leading quinquennial differences of an age ten years younger. If third difference formulas are employed, as in the case of the construction of the recent English Life Tables,<sup>1</sup> the leading single

<sup>1</sup> Supplement to the Seventy-fifth Annual Report of the Registrar-General of England and Wales, Part I, Life Tables, pp. 50-52.

year differences are given in terms of the leading quinquennial differences of an age five years younger. These formulas require the calculation of the leading differences for every fifth year for the entire range of the table considered. The question arises as to whether the proper correction to the fifth difference, where fifth difference formulas are employed, can not be found so as to make the process of calculation continuous without computing the leading differences for every quinquennial set. The fifth difference correction can be determined in the following manner.

#### DETERMINATION OF THE FIFTH DIFFERENCE CORRECTION.

115. In Table 113 only one fifth fractional difference appears, namely,  $\delta^5 y_{n+2} = .0080\Delta^5 y_n$ . Evidently then, equations of the function for values of  $z$  between  $n+3$  and  $n+4$  are necessary to obtain the formulas for the fifth fractional differences of the function for other values of  $z$  between  $n+2$  and  $n+3$ . In other words, the values  $\delta^5 y_{n+2.2}$ ,  $\delta^5 y_{n+2.4}$ ,  $\delta^5 y_{n+2.6}$ ,  $\delta^5 y_{n+2.8}$ , and  $\delta^5 y_{n+3}$  are required, in addition to the above value of  $\delta^5 y_{n+2}$  given in Table 113. Employing equation (39) with  $z = n+3+x = (n+1)+x+2$ , a table precisely similar to Table 113 can be constructed, except that  $n$  is replaced throughout by  $n+1$ . The numerical coefficients in this table would be the same as those in Table 113, the effect being merely to deal with the next unit interval to the right. However, since  $y_{n+1} = y_n + \Delta y_n$ , any equation in terms of  $y_{n+1}$  and its five leading integral differences can readily be transformed into an equation in terms of  $y_n$  and its six leading integral differences. For example, since

$$y_{n+1} = y_n + \Delta y_n, \quad \Delta y_{n+1} = \Delta y_n + \Delta^2 y_n,$$

$$\Delta^2 y_{n+1} = \Delta^2 y_n + \Delta^3 y_n, \quad \Delta^3 y_{n+1} = \Delta^3 y_n + \Delta^4 y_n,$$

$$\Delta^4 y_{n+1} = \Delta^4 y_n + \Delta^5 y_n, \quad \Delta^5 y_{n+1} = \Delta^5 y_n + \Delta^6 y_n,$$

it appears that, when the  $y_{n+2}$  to  $y_{n+3}$  interpolations are expressed in terms of  $y_n$  and its leading differences, the coefficient of  $y_n$  will be unchanged, the coefficient of  $\Delta y_n$  will be algebraically increased by that of  $y_n$ , the coefficient of  $\Delta^2 y_n$  will be algebraically increased by that of  $\Delta y_n$ , of  $\Delta^3 y_n$  by that of  $\Delta^2 y_n$ , of  $\Delta^4 y_n$  by that of  $\Delta^3 y_n$ , of  $\Delta^5 y_n$  by that of  $\Delta^4 y_n$ , and finally  $\Delta^6 y_n$  will have the same coefficient as  $\Delta^5 y_n$  in Table 113.

As an example, by Table 113,

$$\delta^4 y_{n+3} = +.0016\Delta^4 y_{n+1} - .0032\Delta^5 y_{n+1}.$$

When  $y_n + \Delta y_n$  is substituted for  $y_{n+1}$ , this equation becomes

$$\delta^4 y_{n+3} = (.0016\Delta^4 y_n + .0016\Delta^5 y_n)$$

$$- (.0032\Delta^5 y_n + .0032\Delta^6 y_n)$$

$$= +.0016\Delta^4 y_n - .0016\Delta^5 y_n - .0032\Delta^6 y_n.$$

Hence it appears that any coefficient of  $\Delta^p y_n$  in an equation for  $\delta^q y_{n+3}$  may be obtained by adding to the coefficient of  $\Delta^p y_n$  in the equation for  $\delta^q y_{n+2}$  the co-



efficient of  $\Delta^{p-1}y_n$  immediately preceding it. By this process the equations (40) lead to the equations (41).

Equations (41)

|                    |   | $\Delta y_n$ | $\Delta^2 y_n$ | $\Delta^3 y_n$ | $\Delta^4 y_n$ | $\Delta^5 y_n$ | $\Delta^6 y_n$ |
|--------------------|---|--------------|----------------|----------------|----------------|----------------|----------------|
| $\delta y_{n+2}$   | = | + .2         | + .52          | + .408         | + .0704        | -.0160         | +.0016         |
| $\delta^2 y_{n+2}$ | = |              | + .04          | + .088         | + .0496        | + .0064        | +.0048         |
| $\delta^3 y_{n+2}$ | = |              |                | + .008         | + .0144        | + .0016        | -.0048         |
| $\delta^4 y_{n+2}$ | = |              |                |                | + .0016        | -.0016         | -.0032         |
| $\delta^5 y_{n+2}$ | = |              |                |                |                | + .0080        | + .0080        |

With these equations and others taken from Table 113 the differencing necessary to obtain the formulas for the fifth fractional differences of the function for values of  $x$  between  $n+2$  and  $n+3$  can be continued. In the scheme of differencing shown below the equations are grouped according to the order of differences. In each group the first equation is taken from Table 113 and the last equation from the equations (41). The intermediate equations, inclosed in braces, are derived by differencing those in the groups just above.

Table 114

| DERIVATION OF COEFFICIENTS FOR CORRECTED FIFTH DIFFERENCES IN THE OSCULATORY INTERPOLATION FORMULA. |              |                |                |                |                |                |         |
|-----------------------------------------------------------------------------------------------------|--------------|----------------|----------------|----------------|----------------|----------------|---------|
|                                                                                                     | $\Delta y_n$ | $\Delta^2 y_n$ | $\Delta^3 y_n$ | $\Delta^4 y_n$ | $\Delta^5 y_n$ | $\Delta^6 y_n$ |         |
| <i>First differences.</i>                                                                           |              |                |                |                |                |                |         |
| $\delta y_{n+1.8}$                                                                                  | =            | + .2           | + .18          | + .328         | + .0336        | -.0128         | .0000   |
| $\delta y_{n+2}$                                                                                    | =            | + .2           | + .52          | + .408         | + .0704        | -.0160         | +.0016  |
| <i>Second differences.</i>                                                                          |              |                |                |                |                |                |         |
| $\delta^2 y_{n+1.8}$                                                                                | =            | 0              | + .04          | + .072         | + .0256        | -.0112         | .0000   |
| $\delta^2 y_{n+2.8}$                                                                                | =            | 0              | + .04          | + .080         | + .0368        | -.0032         | +.0016  |
| $\delta^2 y_{n+2}$                                                                                  | =            | 0              | + .04          | + .088         | + .0496        | + .0064        | +.0048  |
| <i>Third differences.</i>                                                                           |              |                |                |                |                |                |         |
| $\delta^3 y_{n+2.4}$                                                                                | =            | 0              | 0              | + .008         | + .0096        | -.0032         | .0000   |
| $\delta^3 y_{n+2.6}$                                                                                | =            | 0              | 0              | + .008         | + .0112        | + .0080        | +.0016  |
| $\delta^3 y_{n+2.8}$                                                                                | =            | 0              | 0              | + .008         | + .0128        | + .0096        | +.0032  |
| $\delta^3 y_{n+2}$                                                                                  | =            | 0              | 0              | + .008         | + .0144        | + .0016        | -.0048  |
| <i>Fourth differences.</i>                                                                          |              |                |                |                |                |                |         |
| $\delta^4 y_{n+2.2}$                                                                                | =            | 0              | 0              | 0              | + .0016        | + .0048        | .0000   |
| $\delta^4 y_{n+2.4}$                                                                                | =            | 0              | 0              | 0              | + .0016        | + .0112        | +.0016  |
| $\delta^4 y_{n+2.6}$                                                                                | =            | 0              | 0              | 0              | + .0016        | + .0016        | +.0016  |
| $\delta^4 y_{n+2.8}$                                                                                | =            | 0              | 0              | 0              | + .0016        | -.0080         | -.0080  |
| $\delta^4 y_{n+2}$                                                                                  | =            | 0              | 0              | 0              | + .0016        | -.0016         | -.0032  |
| <i>Fifth differences.</i>                                                                           |              |                |                |                |                |                |         |
| $\delta^5 y_{n+2}$                                                                                  | =            | 0              | 0              | 0              | 0              | + .0080        | .0000   |
| $\delta^5 y_{n+2.2}$                                                                                | =            | 0              | 0              | 0              | 0              | + .0064        | +.0016  |
| $\delta^5 y_{n+2.4}$                                                                                | =            | 0              | 0              | 0              | 0              | 0              | .0000   |
| $\delta^5 y_{n+2.6}$                                                                                | =            | 0              | 0              | 0              | 0              | -.0096         | -.0096  |
| $\delta^5 y_{n+2.8}$                                                                                | =            | 0              | 0              | 0              | 0              | + .0064        | +.0048  |
| $\delta^5 y_{n+2}$                                                                                  | =            | 0              | 0              | 0              | 0              | + .0080        | + .0080 |

Since  $\Delta^6 y_n = \Delta^5 y_{n+1} - \Delta^5 y_n$ , these fifth fractional differences may all be written in terms of the fifth integral differences of  $y_n$  and  $y_{n+1}$ . In these transformed equations it is evident that the coefficients of  $\Delta^5 y_{n+1}$  are the same as those of  $\Delta^6 y_n$  in the original equations and that any coefficient of  $\Delta^5 y_n$  in a transformed equation may be obtained by subtracting the coefficient of  $\Delta^6 y_n$  algebraically from that of  $\Delta^5 y_n$  in the

corresponding original equation. Therefore, the fractional differences may be expressed as shown in Table 115.

Table 115

| FIFTH DIFFERENCES OF THE OSCULATORY INTERPOLATION FORMULA FROM<br>n+2.0 TO n+3.0 IN TERMS OF .0016Δ²y <sub>n</sub> AND .0016Δ²y <sub>n+1</sub> . |   |                  |                    |   |                                                   |    |
|--------------------------------------------------------------------------------------------------------------------------------------------------|---|------------------|--------------------|---|---------------------------------------------------|----|
|                                                                                                                                                  |   | Δ²y <sub>n</sub> | Δ²y <sub>n+1</sub> |   | + .0016Δ²y <sub>n</sub> + .0016Δ²y <sub>n+1</sub> |    |
| δ⁵y <sub>n+2</sub>                                                                                                                               | = | +.0080           | .0000              | = | +5                                                | 0  |
| δ⁵y <sub>n+2.2</sub>                                                                                                                             | = | +.0048           | +.0016             | = | +3                                                | +1 |
| δ⁵y <sub>n+2.4</sub>                                                                                                                             | = | -.0096           | .0000              | = | -6                                                | 0  |
| δ⁵y <sub>n+2.6</sub>                                                                                                                             | = | .0000            | -.0096             | = | 0                                                 | -6 |
| δ⁵y <sub>n+2.8</sub>                                                                                                                             | = | +.0016           | +.0048             | = | +1                                                | +3 |
| δ⁵y <sub>n+3</sub>                                                                                                                               | = | .0000            | +.0080             | = | 0                                                 | +5 |

It will be noticed that all the coefficients are multiples of  $+.0016$ . As the actual computation is materially shortened by working with  $+.0016\Delta^2 y_n$  instead of with just  $\Delta^2 y_n$ , the transformation of these equations, shown at the right in Table 115, was made.

FOURTH DIFFERENCE INTERPOLATION CURVES EMPLOYED AT BEGINNING AND END OF FIFTH DIFFERENCE OSCULATORY INTERPOLATION.

116. It appears from equations (32) and (38) or (39) that when  $\Delta^5 y_{-2} = 0$  the osculatory fifth difference interpolation curve  $y_x = u_x + \psi_x$  reduces to  $y_x = u_x$ . Therefore, if it is desired to start the interpolation from  $y_0$  with a fourth difference equation  $y_x = u_x$  for the first two quinquennial age groups, the method in Table 115 will apply if  $\Delta^5 y_{-10}$  and  $\Delta^5 y_{-5}$  are taken equal to zero. This will make the corrected unit fifth differences

$$\delta^5 y_0 = \delta^5 y_1 = \delta^5 y_2 = \delta^5 y_3 = \delta^5 y_4 = 0,$$

and since  $y_0$  is given and its leading unit differences can be directly calculated in terms of the leading quinquennial differences of  $y_0$  by the equations (42), it follows that the first ten interpolated values  $u_0, u_1, \dots, u_9$  are derived by continuous addition.

Equations (42)

|                | $\Delta y_0$ | $\Delta^2 y_0$ | $\Delta^3 y_0$ | $\Delta^4 y_0$ |
|----------------|--------------|----------------|----------------|----------------|
| $\delta y_0$   | = +.2        | -.08           | +.048          | -.0336         |
| $\delta^2 y_0$ | =            | +.04           | -.032          | +.0256         |
| $\delta^3 y_0$ | =            |                | +.008          | -.0096         |
| $\delta^4 y_0$ | =            |                |                | +.0016         |

The next pair of quinquennial fifth differences,  $\Delta^5 y_{-5} = 0$  and  $\Delta^5 y_0$ , furnish the next five values of the corrected unit fifth differences, and these in turn lead to the next five interpolated values,  $u_{10}, u_{11}, u_{12}, u_{13}, u_{14}$ , on the first osculatory fifth difference interpolation curve. It should be carefully noted that by the process of continuous addition any five successive unit fifth differences lead to five values of the function at the next five higher ages. The steps are illustrated in Table 116.

Table 116

JUNCTION OF FOURTH DIFFERENCE INTERPOLATION CURVES WITH FIFTH DIFFERENCE INTERPOLATION CURVES AT BEGINNING AND END OF RANGE OF INTERPOLATION.

| FOURTH DIFFERENCE INTERPOLATION CURVE<br>$y_x=u_x$ | FIFTH DIFFERENCE INTERPOLATION CURVE<br>$y_x=u_x+\psi_x$ | FOURTH DIFFERENCE INTERPOLATION CURVE<br>$y_x=u_x$ |
|----------------------------------------------------|----------------------------------------------------------|----------------------------------------------------|
|----------------------------------------------------|----------------------------------------------------------|----------------------------------------------------|

The interpolated values of  $y_x$  lie within the age intervals indicated in next row.

| 0-5                                                                                                                                                                                                                                                                   | 5-10                                                                                                                     | 10-15               | 15-20              | 20-25 | 25-30              | 30-35           |     |                 |                 |     |                 |                    |     |                    |                    |     |                    |                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|-------|--------------------|-----------------|-----|-----------------|-----------------|-----|-----------------|--------------------|-----|--------------------|--------------------|-----|--------------------|--------------------|
| <p>Interpolated values in this age interval are derived from <math>y_0</math> and its leading unit differences, <math>\delta y_0</math>, <math>\delta^2 y_0</math>, <math>\delta^3 y_0</math>, <math>\delta^4 y_0</math>, which are calculated by equations (42).</p> | Multipliers, $a$ and $b$ , to obtain values of $\delta^5 y_x=ac\Delta^5 y_{x-10}+bc\Delta^5 y_{x-5}$ , where $c=.0016$ . |                     |                    |       |                    |                 |     |                 |                 |     |                 |                    |     |                    |                    |     |                    |                    |
|                                                                                                                                                                                                                                                                       | $x$                                                                                                                      | $c\Delta^5 y_{-10}$ | $c\Delta^5 y_{-5}$ | $x$   | $c\Delta^5 y_{-5}$ | $c\Delta^5 y_0$ | $x$ | $c\Delta^5 y_0$ | $c\Delta^5 y_5$ | $x$ | $c\Delta^5 y_5$ | $c\Delta^5 y_{10}$ | $x$ | $c\Delta^5 y_{10}$ | $c\Delta^5 y_{15}$ | $x$ | $c\Delta^5 y_{15}$ | $c\Delta^5 y_{20}$ |
|                                                                                                                                                                                                                                                                       |                                                                                                                          | -0                  | -0                 |       | -0                 |                 |     |                 |                 |     |                 |                    |     | -0                 | -0                 |     | -0                 | -0                 |
|                                                                                                                                                                                                                                                                       |                                                                                                                          | $a$                 | $b$                |       | $a$                | $b$             |     | $a$             | $b$             |     | $a$             | $b$                |     | $a$                | $b$                |     | $a$                | $b$                |
|                                                                                                                                                                                                                                                                       | 0                                                                                                                        | 5                   | 0                  | 5     | 5                  | 0               | 10  | 5               | 0               | 15  | 5               | 0                  | 20  | 5                  | 0                  | 25  | 5                  | 0                  |
|                                                                                                                                                                                                                                                                       | 1                                                                                                                        | 3                   | 1                  | 6     | 3                  | 1               | 11  | 3               | 1               | 16  | 3               | 1                  | 21  | 3                  | 1                  | 26  | 3                  | 1                  |
|                                                                                                                                                                                                                                                                       | 2                                                                                                                        | -6                  | 0                  | 7     | -6                 | 0               | 12  | -6              | 0               | 17  | -6              | 0                  | 22  | -6                 | 0                  | 27  | -6                 | 0                  |
|                                                                                                                                                                                                                                                                       | 3                                                                                                                        | 0                   | -6                 | 8     | 0                  | -6              | 13  | 0               | -6              | 18  | 0               | -6                 | 23  | 0                  | -6                 | 28  | 0                  | -6                 |
|                                                                                                                                                                                                                                                                       | 4                                                                                                                        | 1                   | 3                  | 9     | 1                  | 3               | 14  | 1               | 3               | 19  | 1               | 3                  | 24  | 1                  | 3                  | 29  | 1                  | 3                  |

An examination of this table shows how the unit fifth differences are obtained and the corresponding range of the interpolated unit ordinates. The table illustrates an interpolation running from  $y_0$  to  $y_{34}$ . The fourth difference interpolation curve  $y_x = u_x$  is employed in the first two quinquennial groups, followed by three successive fifth difference osculatory curves of the type  $y_x = u_x + \psi_x$ , covering the next three quinquennial age groups, and finally a fourth difference curve of type  $y_x = u_x$  furnishing the interpolations for the last two quinquennial age groups. It will be observed that  $\Delta^5 y_{15}$  and  $\Delta^5 y_{20}$  are taken equal to zero, so that the corrected fifth differences for the last ten years, 20 to 29, lead to the values of ordinates on a fourth difference curve in the range 25 to 34. To summarize, the interpolations are by a fourth difference curve in range 0 to 9, by three fifth difference osculatory curves in range 10 to 24, and by a fourth difference curve in range 25 to 34. The curves of type  $y_x = u_x$  necessarily make a smooth junction with the first and last osculatory curves because by equations (36) and (37) they have a common ordinate, tangent, and radius of curvature, respectively, at the junction ( $10, u_{10}$ ) and ( $25, u_{25}$ ). The application of this theory is shown in the description of the calculation of the life table for males in the state of New York, 1910, section 158 on pages 378 to 386.

**WITTSTEIN'S FORMULA MODIFIED FOR THE RATES OF MORTALITY AT ADVANCED AGES.**

117. Where the census returns and mortality statistics furnished populations and deaths by single years of age to the end of life, it was possible to extend the calculation of the rates of mortality to ages 100 and over. These statistics were available for more than half the life tables shown in this volume, but for thirty-two life tables the populations and deaths were

available only in the quinquennial age groups 0-4, 5-9, and so on, up to 90-94, 95 and over, or 95-99, 100 and over. For these thirty-two tables the calculation of rates of mortality could not be extended satisfactorily beyond ages 94 or 99 by the usual interpolation methods. Moreover, in all the life tables the rates of mortality for ages beyond 80 became irregular, sometimes even decreasing with increasing age. Accordingly, some method had to be devised to determine the rates from about age 80 to the end of life so that they would form a smooth table and at the same time keep as close as possible to the original data.

Obviously the only recourse was to make some assumption as to the rates of mortality near the end of life so that from this assumption and rates of mortality at older ages already determined it would be possible to calculate the rates of mortality up to some limiting age. After many preliminary experiments with various formulas, it was decided to employ Wittstein's formula, namely,

$$q_x = a^{-\frac{(x-x)^n}{m}} + \frac{1}{m} a^{-(m-x)^n}.$$

Since the value of the last term of this equation is practically zero at the older ages, only the first term of the second member of the equation was employed. In this formula,  $M$  was taken equal to 115 where  $q_{115} = 1$ , making  $\omega = 116$ , the limiting age. This left  $a$  and  $n$  as the constants to be determined in the equation

$$q_x = a^{-\frac{(x-x)^n}{m}}. \quad (43)$$

The details of this calculation are described in section 119.

After the rates of mortality had been calculated according to equation (43) they were joined to the main table of rates by the smoothing process described in section 121.

OLD AGE RATES EMPLOYED TO DETERMINE CONSTANTS.

118. It is shown in section 119 that the constants  $a$  and  $n$  in equation (43) are based upon ten or more rates of mortality at older ages which have already been determined. From experiments made in determining rates from the five possible quinquennial groups it was found that the accumulated deviations of the expected deaths from the actual were smallest when the rates were made to depend upon a combination of all the groups. Hence, where the population and deaths by single years were available the rates from which the above constants were determined were made to depend upon all the groups. In the case of the thirty-two tables mentioned above, where only one group is available, more than ten rates were used in the determination of the constants when this was necessary.

The formula used to graduate the population and death statistics by all the different groups is the one for obtaining the graduated value of the central term of a series of fifteen values of a function. It was employed by Mr. George King to obtain graduated quinquennial pivotal values and is derived by him as follows:<sup>1</sup>

Let there be a series of fifteen values of  $u$ , the function to be dealt with, from  $u_0$  to  $u_{14}$ . To find the graduated value of  $u_7$ , the central term of the series.

Let  $y$  be the finite integral of the function  $u$ , so that  $y_x = \sum_0^{x-1} u$ ; and let  $\Delta y$ ,  $\Delta^2 y$ , etc., be the differences of  $y$  for quinquennial intervals, so that  $\Delta y_0 = \sum_0^4 u$ ,  $\Delta y_5 = \sum_5^9 u$ , and so on. Then

$$\begin{aligned} u_7 &= y_8 - y_7, \\ y_8 &= y_0 + \frac{8}{5}\Delta y_0 + \frac{24}{50}\Delta^2 y_0 - \frac{8}{125}\Delta^3 y_0, \\ y_7 &= y_0 + \frac{7}{5}\Delta y_0 + \frac{14}{50}\Delta^2 y_0 - \frac{7}{125}\Delta^3 y_0; \end{aligned}$$

hence

$$\begin{aligned} u_7 &= \frac{1}{5}\Delta y_0 + \frac{1}{5}\Delta^2 y_0 - \frac{1}{125}\Delta^3 y_0 \\ &= .2\Delta y_5 - .008\Delta^3 y_0. \end{aligned}$$

The differences,  $\Delta$ , of  $y$  are the sums of five values of the function  $u$ , and may be represented by the symbol  $w$ , so that

$$w_x = u_x + u_{x+1} + u_{x+2} + u_{x+3} + u_{x+4}. \quad (44)$$

Accordingly,

$$u_7 = .2w_8 - .008\Delta^2 w_0. \quad (45)$$

When

$$w_x = L_x + L_{x+1} + L_{x+2} + L_{x+3} + L_{x+4} = -\Delta T_x,$$

then

$$L_{x+2} = .2w_x - .008\Delta^2 w_{x-5}, \quad (46)$$

<sup>1</sup> Supplement to the Seventy-fifth Annual Report of the Registrar-General of England and Wales, Part I, Life Tables, Appendix II, sec. 2, p. 49.

and when

$$w_x = d_x + d_{x+1} + d_{x+2} + d_{x+3} + d_{x+4} = -\Delta L_x,$$

then

$$d_{x+2} = .2w_x - .008\Delta^2 w_{x-5} \quad (47)$$

The populations and deaths from about age 80 to the end of life were summed in each of the five possible quinquennial groups and equations (46) and (47), respectively, applied to the original data summed in each group. The graduated populations and deaths thus obtained were from all the different groups, only populations and deaths five years apart being from the same groups. After the rates of mortality had been computed they were summed in fives, and the average of each sum was taken as the value for the central age in that sum. Thus these mean rates of mortality are based upon original data grouped in each of the five possible quinquennial groups.

DETERMINATION OF CONSTANTS IN WITTSTEIN'S FORMULA.

119. The constants employed to determine the rates of mortality for older ages through age 114 were the arithmetic means,  $\bar{n}$  and  $\log \log a$ , of five sets of values for  $n$  and  $\log \log a$ , which were derived from the rates of mortality for ten consecutive ages, as follows:

- the first set from  $q_x$  and  $q_{x+5}$ ,
- the second set from  $q_{x+1}$  and  $q_{x+6}$ ,
- the third set from  $q_{x+2}$  and  $q_{x+7}$ ,
- the fourth set from  $q_{x+3}$  and  $q_{x+8}$ ,
- the fifth set from  $q_{x+4}$  and  $q_{x+9}$ .

The method of selecting the ten consecutive rates of mortality upon which are based  $\bar{n}$  and  $\log \log a$  is shown in section 188, page 392, for life table for males in the state of New York, 1910.

In order to obtain any one of the sets of values, equation (43) was written in the logarithmic form

$$\log q_x = -(M-x)^n \log a$$

and two equations formed by substituting for  $x$  the two ages  $b$  and  $b+5$ . Accordingly,

$$\log q_b = -(M-b)^n \log a$$

and

$$\log q_{b+5} = -(M-b-5)^n \log a;$$

from which

$$\frac{\log q_b}{\log q_{b+5}} = \frac{(M-b)^n}{(M-b-5)^n};$$

whence,

$$n = \frac{\log(-\log q_b) - \log(-\log q_{b+5})}{\log(M-b) - \log(M-b-5)}. \quad (48)$$

After  $n$  was determined the value of  $a$  was derived from the equations

$$\log \log a = \log(-\log q_b) - n \log(M-b)$$

$$\log \log a = \log(-\log q_{b+5}) - n \log(M-b-5). \quad (49)$$

## THE OVERLAPPING SERIES OF RATES OF MORTALITY.

120. For the older ages there are now three sets of overlapping rates of mortality, namely, those near the end of the table determined by the osculatory process, those determined by the group process described in section 118, and those determined by Wittstein's formula. The first two sets are based upon the original population and death data but derived by different methods, and the third is based upon the second set and upon an hypothesis as to the variation of the rates of mortality as the age approaches the limit of life. These three sets of rates of mortality for males in the state of New York, 1910, are shown in tape 205, page 397. The method of selecting a fourth set of rates of mortality from these three which will be fairly representative of all three, and yet be less irregular than any one of them, is set forth in section 205, page 396.

For the thirty-two tables mentioned in section 117 there were only two overlapping sets of rates of mortality at the older ages, but the derivation of a third set from these two was made in the same way.

SPENCER'S 21-TERM FORMULA.<sup>1</sup>

121. A number of smoothing processes were tried upon this fourth set of rates of mortality, and finally it was decided to use the results obtained by the application of Spencer's 21-term formula, that is, where  $\bar{u}$  represents the smoothed central value and  $u$  the unsmoothed values,

$$\bar{u}_0 = [5]^2[7]\{-u_{-3} + u_{-1} + 2u_0 + u_1 - u_3\}/350. \quad (50)$$

This formula is based upon the assumption that the smoothed values shall have a constant third difference. Since the operand requires seven terms, that is, six more than the central term, while adding twice in fives and once in sevens requires fifteen more terms, twenty-one terms in all are required to give one smoothed central term. Hence the table of smoothed values will begin at an age 10 years older than the unsmoothed one.

## SUMMARY OF METHODS EMPLOYED TO OBTAIN THE RATES OF MORTALITY.

122. To summarize, the rates of mortality upon which any life table was based were obtained in the following manner:

1. Monthly rates of mortality under 1 year, when the statistics were available, and annual rates of mortality by single years of age under 5 were computed from mortality statistics and from the number exposed to risk of death determined from births, deaths, and increase in population according to census returns. The deaths by months under 1 year were adjusted

by a graphical process explained in section 136, page 370.

2. When the rates under 5 years of age, worked according to the process described in paragraph 1 of this section, did not form a smooth junction with rates for ages following 5, worked according to the method described in paragraph 3, a special process was applied to from six to fourteen rates beginning with age 3 to produce a smooth junction. The rates thus obtained, beginning with age 4, were used for the life table. This process is described in sections 250 to 263, pages 408 to 410.
3. Annual rates of mortality from the last age computed according to paragraph 2 up to the old ages were obtained from graduated interpolated values of populations and deaths by single ages, obtained by the application of the fifth difference osculatory formula to population and death statistics summed in the quinquennial age groups 4-8, 9-13, or 5-9, 10-14, and so on.
4. Annual rates of mortality from about age 80 to some age near 100 were obtained by the application of Spencer's 21-term formula to a set of rates of mortality selected from the following sources:
  - (a) Rates described in paragraph 3.
  - (b) Rates, each of which was the arithmetic mean of five consecutive rates of mortality, obtained from populations and deaths derived by the application of the formula
 
$$u_{x+7} = .2 \sum_{x=5}^{x=9} u_x - .008\Delta^2 \sum_{x=0}^{x=4} u_x$$
 to population and death statistics summed in each of the five quinquennial groups, respectively.
  - (c) Rates described in paragraph 5.

For the thirty-two tables mentioned in section 117, only (a) and (c) were available.
5. Annual rates of mortality from some age near 100 through age 115 were obtained by the application of Wittstein's formula for old ages to the rates of mortality obtained as described in paragraph 4 (b).

## CALCULATION OF THE DERIVED MORTALITY FUNCTIONS.

123. The rates of mortality were obtained from the statistical data by methods already described. The derived columns,

$$l_x, d_x, \bar{e}_x, L_x, L_x/d_x, T_x, 1000l_x/T_x,$$

appearing in each life table were then calculated from these rates of mortality with the further assumption of a stationary population supported by  $l_0$  persons born alive uniformly throughout each year.

<sup>1</sup>On the Graduation of the Rates of Sickness and Mortality presented by the Experience of the Manchester Unity of Odd-fellows during the period 1893-1897. John Spencer. Journal of the Institute of Actuaries, vol. 38, p. 334.

This population was also assumed to be unaffected by emigration and immigration. Under these conditions the formulas derived in this text, establishing relations between the various aggregates of the living and dead, are considerably simplified. For example, all generations are alike, the populations for each age interval remain constant, and the elementary areas  $abdf$ , Diagram 12, page 336, together with their corresponding elementary triangles  $abd$ ,  $dfa$ , respectively, are unchanged from generation to generation. In other words, for all values of  $t$

$$E_x^{t/t+1} = l_x, \quad P_{x+1}^{x/t+1} = L_x, \quad \text{and} \quad D_{x/t+1}^{t/t+1} = d_x.$$

Equation (14) becomes

$$\frac{E_{x+1}^{t/t+1}}{E_x^{t/t+1}} = \frac{l_{x+1}}{l_x} = p_x \quad \text{and} \quad l_{x+1} = p_x l_x. \quad (51)$$

Accordingly, when the radix of the table,  $l_0$ , was taken as 100,000, the number of survivors at each age was obtained by multiplying the products of the  $p_x$  up to that age by 100,000. These products were copied to the nearest fourth decimal place, and the multiplications were performed upon a ten-place computing machine. The  $d_x$  were obtained by differencing the  $l_x$ .

#### CALCULATION OF THE DERIVED MORTALITY FUNCTIONS UNDER 5 YEARS.

124. It is also evident that

$$D_\delta = D_\beta = k (D_\alpha + D_\beta) = k D_{x/t+1}^{t/t+1} = k d_x,$$

where  $k$  is the percentage of deaths in  $D_\beta$  to the total deaths,  $d_x$ , in  $abdf$ . Hence, by section 104,

$$L_x = l_{x+1} + D_\beta = l_{x+1} + k d_x,$$

and with the percentages shown in Table 109, page 340, the formulas for ages 1, 2, 3, and 4 become

$$\begin{aligned} L_1 &= l_2 + .41d_1 = (41l_1 + 59l_2)/100, \\ L_2 &= l_3 + .47d_2 = (47l_2 + 53l_3)/100, \\ L_3 &= l_4 + .48d_3 = (48l_3 + 52l_4)/100, \\ L_4 &= l_5 + .48d_4 = (48l_4 + 52l_5)/100. \end{aligned} \quad (52)$$

Beyond age 4 it is assumed that  $D_\alpha = D_\beta$ ; in other words,  $k = .50$ . Hence for such values of  $x$

$$L_x = l_{x+1} + .50d_x = (l_x + l_{x+1})/2. \quad (53)$$

For the age interval 0-1 the formula for males was

$$L_0 = l_1 + .28d_0$$

and for females

$$L_0 = l_1 + .29d_0,$$

except in those cases where there was an infant mortality table, when  $L_0$  for the yearly age interval 0-1 was necessarily taken as the sum of the popula-

tions for the twelve monthly age intervals under 1 year.

For ages under 1 year, where the values are given by months, the formula employed for the first month is

$$L_0^{(12)} = (l_1^{(12)} + .25d_0^{(12)})/12 = (l_0^{(12)} + 3l_1^{(12)})/48, \quad (54)$$

the superscript  $(12)$  referring to the monthly values. This result is based on the assumption that when the plane is divided up into monthly instead of annual elementary parallelograms and triangles, as in Diagram 12, page 336,

$$D_\delta^{(12)} = .25D_{0/1}^{t/t+1}.$$

In other words, the deaths in the first month of life during any month of time are divided between the earlier and later monthly generations in the ratio of 1 to 3. In the publication of the Bureau of the Census, Bulletin 109, Mortality Statistics, 1910, Table 10, pages 154 to 191, there are given for the calendar year 1910 the number of deaths by days for the first week of life and by weeks for the remaining three weeks of the first month of life. By employing the theory developed in section 108, in connection with formulas (25) and (26), it was possible to calculate for various areas the ratio of the number of deaths  $D_\delta^{(12)}$  in the upper elementary monthly triangle to the number of deaths in the parallelogram  $D_{0/1}^{t/t+1}$ . For example, the deaths in the original registration states gave the ratio as .2400; Massachusetts, .2378; New York, .2531; and New York City, .2747. This led to the adoption of  $k = .25$  for the first month of life. The following table exhibits the calculation of  $k$  for the state of New York.

Table 117

| DETERMINATION OF PERCENTAGE OF DEATHS UNDER 1 MONTH TO BE ADDED TO THOSE SURVIVING TO AGE 1 MONTH TO OBTAIN POPULATION UNDER 1 MONTH. |         |                   |           |
|---------------------------------------------------------------------------------------------------------------------------------------|---------|-------------------|-----------|
| Age interval.                                                                                                                         | Factor. | Number of deaths. | (2) X (3) |
| (1)                                                                                                                                   | (2)     | (3)               | (4)       |
| <i>In days</i>                                                                                                                        |         |                   |           |
| 0-1                                                                                                                                   | 1       | 2,395             | 2,395     |
| 1-2                                                                                                                                   | 3       | 1,474             | 4,422     |
| 2-3                                                                                                                                   | 5       | 714               | 3,570     |
| 3-4                                                                                                                                   | 7       | 532               | 3,724     |
| 4-5                                                                                                                                   | 9       | 397               | 3,573     |
| 5-6                                                                                                                                   | 11      | 336               | 3,696     |
| 6-7                                                                                                                                   | 13      | 232               | 3,016     |
| Total .....                                                                                                                           |         |                   | 21,396    |
| 24,396 + 730 .....                                                                                                                    |         |                   | 33.42     |
| <i>In weeks.</i>                                                                                                                      |         |                   |           |
| 1-2                                                                                                                                   | 3       | 1,352             | 4,146     |
| 2-3                                                                                                                                   | 5       | 1,244             | 6,220     |
| 3-4                                                                                                                                   | 7       | 1,094             | 7,658     |
| Total .....                                                                                                                           |         | 9,690             | 18,024    |
| 18,024 + 104 .....                                                                                                                    |         |                   | 173.31    |
| Ratio = $\frac{33.42 + 173.31}{9,000/12} = .2531$                                                                                     |         |                   |           |

As there were no statistics upon which to base the value of this ratio for the remaining months under 1 year of age,  $k$  was taken as .50, leading to the equation

$$L_x^{(m)} = (l_{x+1}^{(m)} + .50d_x^{(m)})/12 = (l_x^{(m)} + l_{x+1}^{(m)})/24. \quad (55)$$

To obtain the population aged  $x$  and over,  $T_x$ , the following equation was used:

$$T_x = \sum_{i=x}^{\sigma} L_i, \quad (56)$$

where  $\sigma$  represents the last age in the life table.

The expectation of life was derived according to the equation

$$\bar{e}_x = T_x/L_x, \quad (57)$$

while the measure of vitality or population per death was obtained from the equations

$$\lambda_x^{(m)} = 12L_x^{(m)}/d_x^{(m)} \quad \text{and} \quad \lambda_x = L_x/d_x, \quad (58)$$

for values under 1 year the ratio,  $L_x^{(m)}/d_x^{(m)}$ , being multiplied by 12. The values of both  $\bar{e}_x$  and  $\lambda_x$  were determined to the nearest second decimal place from the integral values of  $T_x$  and  $L_x$ ,  $L_x$  and  $d_x$ , respectively, up to age 80. From age 80 to the end of life they were determined from the values of  $T_x$  and  $L_x$ ,  $L_x$  and  $d_x$ , respectively, taken to the nearest fourth decimal place.

The average death rate per thousand of the population aged  $x$  and over was computed to the nearest second decimal place by the equation

$$1000/\bar{e}_x = 1000L_x/T_x. \quad (59)$$

#### SPECIAL FORMULAS AND PROCESSES.

125. The theory of life table construction developed in the text up to this point embodies chiefly methods and processes which were quite generally employed on all the life tables, and, in particular, in the calculation of the life table for males in the state of New York, 1910. The details of the arithmetic processes in computing this table are fully explained on pages 370 to 408. For example, the method of obtaining the rates of mortality for single years of age under 5, the osculatory fifth difference interpolation formula, and Wittstein's old-age formula are employed in calculations for every life table. In some cases, however, special methods had to be devised to secure satisfactory results, and these will now be described.

#### JUNCTION OF RATES OF MORTALITY UNDER AGE 5 WITH RATES BY OSCULATORY INTERPOLATION.

126. The rates of mortality, ages 0 to 4 years, obtained by the method described in section 111 from populations calculated from births and deaths, and those for ages 4 and over, obtained from populations and deaths graduated by the fifth difference osculatory formula, do not always form a smooth junction. In these cases the rates of mortality were regraduated near the age at which the two sets of tables were

joined. The smoothing process selected for this purpose is based on a modification of Lagrange's theorem, namely,

$$m_x = \frac{(x-b)(x-c)}{(a-b)(a-c)}m_a + \frac{(x-c)(x-a)}{(b-c)(b-a)}m_b + \frac{(x-a)(x-b)}{(c-a)(c-b)}m_c + (x-a)(x-b)(x-c)K, \quad (60)$$

where  $m_x$  is the central death rate and  $a$ ,  $b$ , and  $c$  are the abscissas of rates of mortality already determined.

In order to shorten the work, equation (60) was transformed by moving the origin a distance  $a$  to the right so that the new age variable is  $y = x - a$  and the abscissas of the three known rates of mortality are 0,  $e = b - a$ ,  $f = c - a$ , respectively. When the products of the constants in each of the first three terms in the right-hand member of equation (60) are denoted by  $U_a$ ,  $U_b$ , and  $U_c$ , respectively, this equation becomes

$$m_x = (y-e)(y-f)U_a + (y-f)yU_b + y(y-e)U_c + Ky(y-e)(y-f).$$

Whence, expanding,

$$m_x = (U_a + U_b + U_c)y^2 - [(e+f)U_a + fU_b + eU_c]y + efU_a + K[y^3 - (e+f)y^2 + efy], \quad (61)$$

or,

$$m_x = Uy^2 - Vy + efU_a + K[y^3 - (e+f)y^2 + efy], \quad (62)$$

where the constants for which  $U$  and  $V$  are substituted are obvious.

In order to determine the value of  $K$  the condition was made that the sum of the expected deaths for the ages under consideration must equal the sum of the actual deaths at these ages; that is,

$$\sum L_x m_x = M, \quad (63)$$

where  $M$  is the sum of the actual deaths at the ages under consideration. Substituting in equation (63) the value of  $m_x$  in equation (62) and solving for  $K$ , the following equation is obtained:

$$K = \frac{M - U \sum y^2 L_x + V \sum y L_x - ef U_a \sum L_x}{\sum y^3 L_x - (e+f) \sum y^2 L_x + ef \sum y L_x}. \quad (64)$$

Table 118 furnishes a convenient outline to calculate the values of  $U$  and  $V$ .

Table 118

| FIRST OUTLINE USED IN CALCULATION OF RATES OF MORTALITY JOINING THOSE UNDER AGE 5 WITH THOSE BY OSCULATORY INTERPOLATION. |       |       |       |        |         |                            |                             |                       |
|---------------------------------------------------------------------------------------------------------------------------|-------|-------|-------|--------|---------|----------------------------|-----------------------------|-----------------------|
| $x$                                                                                                                       | $u_x$ | $v_x$ | $q_x$ | $2q_x$ | $2-q_x$ | $m_x = \frac{2q_x}{2-q_x}$ | $U_x = \frac{m_x}{u_x v_x}$ | Items whose sum = $V$ |
| 1                                                                                                                         | 2     | 3     | 4     | 5      | 6       | 7                          | 8                           | 9                     |
| $a$                                                                                                                       | $a-b$ | $a-c$ | ..... | .....  | .....   | .....                      | .....                       | $(e+f)U_a$            |
| $b$                                                                                                                       | $b-c$ | $b-a$ | ..... | .....  | .....   | .....                      | .....                       | $fU_b$                |
| $c$                                                                                                                       | $c-a$ | $c-b$ | ..... | .....  | .....   | .....                      | .....                       | $eU_c$                |
| Totals.....                                                                                                               |       |       |       |        |         |                            | $U$                         | $V$                   |



In applying the above formulas to join the two sets of tables of rates of mortality,  $a$  was always taken as the age immediately preceding the  $n$  ages whose rates of mortality were to be determined, while  $b$  and  $c$  immediately follow these  $n$  ages. To determine the products of the powers of  $y$  by  $L_x$ , a second table was formed.

Table 119

| SECOND OUTLINE USED IN CALCULATION OF RATES OF MORTALITY JOINING THOSE UNDER AGE 5 WITH THOSE BY OSCULATORY INTERPOLATION. |         |           |           |              |               |                 |                 |
|----------------------------------------------------------------------------------------------------------------------------|---------|-----------|-----------|--------------|---------------|-----------------|-----------------|
| $x$                                                                                                                        | $y=x-a$ | $y^2$     | $y^3$     | $L_x$        | $yL_x$        | $y^2L_x$        | $y^3L_x$        |
| 1                                                                                                                          | 2       | 3         | 4         | 5            | 6             | 7               | 8               |
| $a$                                                                                                                        | 0       | 0         | 0         |              |               |                 |                 |
| $a+1$                                                                                                                      | 1       | 1         | 1         |              |               |                 |                 |
| $a+2$                                                                                                                      | 2       | 4         | 8         |              |               |                 |                 |
| $a+3$                                                                                                                      | 3       | 9         | 27        |              |               |                 |                 |
| etc.                                                                                                                       | etc.    | etc.      | etc.      |              |               |                 |                 |
| $a+n-1$                                                                                                                    | $n-1$   | $(n-1)^2$ | $(n-1)^3$ |              |               |                 |                 |
| $a+n$                                                                                                                      | $n$     | $n^2$     | $n^3$     |              |               |                 |                 |
| $b$                                                                                                                        | $b-a=c$ | $c^2$     | $c^3$     |              |               |                 |                 |
| $c$                                                                                                                        | $c-a=f$ | $f^2$     | $f^3$     |              |               |                 |                 |
| Totals.....                                                                                                                |         |           |           | $\Sigma L_x$ | $\Sigma yL_x$ | $\Sigma y^2L_x$ | $\Sigma y^3L_x$ |

After the determination of  $K$  the first and second differences of  $m_a$  and the constant third difference were computed, and the values of  $m_x$  from  $a+1$  to  $c$  were obtained by continuous addition, the check on the work being, of course, that the values for  $m_b$  and  $m_c$  obtained by this process were the same as those in the first table. To obtain the equations for the three leading differences of  $m_a$ , equation (62) was differenced three times. Since the values of  $y$  are the natural numbers and when  $x=a$ ,  $y=0$ , the first difference of all three powers of  $y$  is one, the second difference of  $y^2$  is two, and the second and third differences of  $y^3$  are each six when  $x=a$ . Hence

$$\begin{aligned}\delta m_a &= U - V + K[1 - (e+f) + ef] \\ \delta^2 m_a &= 2U + K[6 - 2(e+f)] \\ \delta^3 m_a &= 6K.\end{aligned}\quad (65)$$

When several tables are to be computed, having the same ages for  $a$ ,  $b$ , and  $c$ , the first four columns in the second table and the coefficients of  $K$  in equation (65) need be computed only once. An example of an application of this method to the life table for white females in cities of the original registration states, 1901, appears in sections 250 to 263, pages 408 and 410, and in the corresponding tapes, page 409.

#### DETERMINATION OF MEAN POPULATION.

127. In order to compare the rates of mortality in this country with those in others where life tables had been constructed from statistics covering the ten-year period 1901-1910, similar tables were pre-

pared for white males and white females in the original registration states. These two life tables are based on the census enumerations of June 1, 1900, and April 15, 1910, and the reported deaths for the ten calendar years 1901 to 1910, shown in Tables 173 and 174 on pages 464 and 465. The details of this work are explained in sections 264 to 274 on pages 410, 413, and 414 and in the corresponding tapes on pages 411 and 412.

The formula<sup>1</sup> used in determining the mean population for the ten-year period 1901-1910 is a modification of those employed for the English Life Tables.<sup>2</sup> The assumption is made that the population as a whole increases by geometrical progression, so that, if  $e$  be the time between the taking of two censuses in which the total populations were  $P_0$  and  $P_e$ , respectively, then

$$P_e = r^{e/u} P_0, \quad (66)$$

where  $u$  is the unit of time on which the constant  $r$  is based. Also after any time interval  $t$  the entire population is

$$P_t = r^{t/u} P_0. \quad (67)$$

When the total population has been determined in this way it is assumed that any subdivision of the population at the time  $t$  is

$$\pi_t = m\pi_0 + n\pi_e, \quad (68)$$

where  $\pi_0$  and  $\pi_e$  are the populations of these same subdivisions at the first and second censuses, respectively. If  $m+n=1$ , it follows that when  $\pi_0=\pi_e$ , then  $\pi_t=\pi_0$ ; also, since the total population is equal to the sum of the subdivisions, that

$$\Sigma \pi_t = m\Sigma \pi_0 + (1-m)\Sigma \pi_e = P_t = mP_0 + (1-m)P_e. \quad (69)$$

Accordingly,

$$m = \frac{P_e - P_t}{P_e - P_0}, \quad \text{and} \quad 1-m = \frac{P_t - P_0}{P_e - P_0}. \quad (70)$$

Substituting in equations (70) the values of  $P_e$  and  $P_t$  from equations (66) and (67), respectively, they become

$$m = \frac{r^{e/u} - r^{t/u}}{r^{e/u} - 1} \quad \text{and} \quad 1-m = \frac{r^{t/u} - 1}{r^{e/u} - 1}. \quad (71)$$

If  $\Delta = \pi_e - \pi_0$ , then  $\pi_e = \pi_0 + \Delta$ . Substituting this value for  $\pi_e$  in equation (68), this equation becomes

$$\pi_t = m\pi_0 + (1-m)(\pi_0 + \Delta) = \pi_0 + (1-m)\Delta, \quad (72)$$

and substituting the expression for  $1-m$  in equation (71) for  $1-m$  in equation (72), this equation becomes

$$\pi_t = \pi_0 + \frac{r^{t/u} - 1}{r^{e/u} - 1} \Delta. \quad (73)$$

<sup>1</sup> Note upon Estimates of Population. Alfred C. Waters. Seventieth Annual Report of the Registrar-General, 1907, p. cxxxii.

<sup>2</sup> Supplement to the Seventy-fifth Annual Report of the Registrar-General of England and Wales, Part 1, Life Tables, p. 47.

Then the mean population over a period  $l$ , which begins an interval  $h$  after the taking of the first census, is the integral of  $\pi_t dt$ , between the limits of time  $t=h$  and  $t=h+l$ , divided by the length of the period. In other words, if  $\bar{\pi}_l$  be the mean population over the period  $l$  in any subdivision, then

$$\begin{aligned}\bar{\pi}_l &= \frac{1}{l} \int_h^{h+l} \pi_t dt = \frac{1}{l} \int_h^{h+l} \left[ \pi_0 + \frac{(r^{t/u} - 1)}{(r^{l/u} - 1)} \Delta \right] dt \\ &= \frac{1}{l} \left[ l\pi_0 + \left\{ \frac{u(r^{(h+l)/u} - r^{h/u})}{\lambda r} - l \right\} \frac{\Delta}{r^{l/u} - 1} \right] \\ &= \pi_0 + \left\{ \frac{u}{l} \cdot \frac{r^{h/u}(r^{l/u} - 1)}{\lambda r} - 1 \right\} \frac{\Delta}{r^{l/u} - 1}, \quad (74)\end{aligned}$$

where  $\lambda r$  denotes the Napierian logarithm of  $r$ .

The total mean population for the period  $l$  is

$$\bar{P}_l = \frac{1}{l} \int_h^{h+l} P_t dt = \frac{P_0}{l} \int_h^{h+l} r^{t/u} dt = \frac{u P_0}{l} \cdot \frac{r^{h/u}(r^{l/u} - 1)}{\lambda r}. \quad (75)$$

The results obtained from equation (74) for the different subdivisions,  $\bar{\pi}_l$ , are checked when their sum equals the value for  $\bar{P}_l$  obtained from equation (75).

In this case the first census was taken on June 1, 1900, and the second on April 15, 1910, so that the time between the taking of the two censuses was  $e=118.5$  months. The period of time for which the mean population was desired was from December 31, 1900, to December 31, 1910, or  $l=10$  years = 120 months, and  $h=7$  months. The unit of time on which the ratio  $r$  was based is  $l$ , or  $u=l=120$  months. Hence, equation (74) may be written

$$\bar{\pi}_l = \pi_0 + \left\{ \frac{r^{7/120}(r-1)}{\lambda r} - 1 \right\} \frac{\Delta}{r^{118.5/120} - 1} = \pi_0 + \beta \Delta, \quad (76)$$

and equation (75) becomes

$$\bar{P}_l = \frac{P_0}{\lambda r} r^{7/120}(r-1) = \alpha P_0. \quad (77)$$

This formula was also employed to determine the mean population for the following four tables for the ten-year period 1901-1910: Negro males and Negro females in the original registration states and in the District of Columbia. The original statistics from which these life tables were constructed appear in Tables 175 to 178, pages 466 to 469.

RATES OF MORTALITY CALCULATED FOR LIFE TABLES TESTED FOR SMOOTHNESS AND CONFORMITY TO ORIGINAL STATISTICS.

128. It is the practice of actuaries and statisticians to test the goodness of graduation by an examination of the third differences. This test requires that the differences be small and that they oscillate frequently and regularly from positive to negative and negative to positive. This means that the absolute sum of the differences and accumulated or net differences must be small. Table 120 shows such a test of the rates of mortality upon which were based the life tables for white males and for white females in the original registration states in 1910. The totals for this table include the sum of the positive differences, the sum of the negative differences, and the accumulated or algebraic sum of the positive and negative differences, denoted as *net*, and the sum of the positive and negative differences irrespective of signs, denoted as *absolute*. Totals are given for all ages and also for those with ages 0-1 and 1-2 excluded. It will be observed that after age 2 the differences are small and frequently change signs. This is verified by the totals for white males, net, -106, and absolute, 1,878; for white females, net, +34, and absolute, 2,060. The third differences are also shown for the infant mortality section of the tables.

It is not to be expected that the differences will be small for the first two or three years of life because it is well known that the rate of mortality at these ages does not even approximate a third degree curve.

TABLE 120.—THIRD DIFFERENCES OF RATES OF MORTALITY, TAKEN TO FIVE DECIMALS, AMONG WHITES IN THE ORIGINAL REGISTRATION STATES, 1910.

$10^5 \delta^3 q_x$

| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
|------------------------|--|--|--|--|-----------------------|--|--|--|--|-----------------------|--|--|--|--|-----------------------|--|--|--|--|-----------------------|--|--|--|--|----------|--|--|--|--|
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females.              |  |  |  |  | Males.                |  |  |  |  | Females. |  |  |  |  |
| MONTHLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  | YEARLY AGE INTERVALS. |  |  |  |  |          |  |  |  |  |
| Males.                 |  |  |  |  |                       |  |  |  |  |                       |  |  |  |  |                       |  |  |  |  |                       |  |  |  |  |          |  |  |  |  |

In Table 124, page 359, in column headed group 4-8, a similar test is given for the rates of mortality between ages 15 and 85 upon which the life table for males in the state of New York, 1910, was based. These rates of mortality were derived from population and death statistics graduated by the application of the fifth difference osculatory formula to the original statistics summed in the 4-8 group.

A very satisfactory test of the success of the graduated rates of mortality is to apply them to the original population statistics to determine the expected number of deaths and compare these with the actual number of deaths as recorded in the mortality statistics. If the deviations of the expected deaths from the actual deaths are small, both as to net and absolute totals, where the population is large, the life table may be regarded as faithfully representing mortality conditions in the original population. In Table 121 this test is applied to measure the deviations of expected from actual deaths in the large populations

for white males and white females in the original registration states in 1910. Each of these populations numbers over eleven and one-half millions, and during the three-year period 1909-1911 there were 567,661 deaths among males and 496,378 deaths among females. The expected number of deaths among males by the life table rates of mortality is 556,913, or about 98 per cent of the actual number; the expected number of deaths among females is 487,895, also about 98 per cent of the actual number of deaths. If the first two age intervals, namely, 0-1 and 1-2, are excluded, the expected number of deaths in both cases is less than two-tenths of 1 per cent of the actual. To put it in another way, the total number of deaths of white males over age 2 in the three-year period 1909-1911 was 434,594, while the expected number which would be predicted by making use of the table is 434,216, a difference of 378, or less than one-tenth of 1 per cent, in about 400,000 deaths. Among females in the same period the actual number of deaths was

389,206, the expected number by the table, 388,630, a difference of only 576, or less than two-tenths of 1 per cent.

The expected deaths in Table 121 are shown for five-year groups after the first four age intervals. They were calculated by applying the reciprocal of the

measure of vitality,  $1/\lambda_x$ , to three times the estimated population on July 1, 1910.

This test is also applied in Table 125, page 360, to the graduations by the different quinquennial age groups for males in the state of New York in 1910, and with very satisfactory results.

TABLE 121.—DEVIATIONS OF EXPECTED DEATHS FROM ACTUAL DEATHS AMONG WHITES IN THE ORIGINAL REGISTRATION STATES, 1910.

| AGE INTERVAL.                                 | MALES.                             |                          |         |                                            | FEMALES.                           |                          |         |                                            |
|-----------------------------------------------|------------------------------------|--------------------------|---------|--------------------------------------------|------------------------------------|--------------------------|---------|--------------------------------------------|
|                                               | Estimated population July 1, 1910. | Deaths during 1909-1911. |         | Deviations of expected from actual deaths. | Estimated population July 1, 1910. | Deaths during 1909-1911. |         | Deviations of expected from actual deaths. |
|                                               |                                    | Expected.                | Actual. |                                            |                                    | Expected.                | Actual. |                                            |
| 0-1                                           | 254,307                            | 103,237                  | 111,131 | + 7,894                                    | 247,817                            | 81,878                   | 87,613  | + 5,735                                    |
| 1-2                                           | 226,129                            | 19,460                   | 21,936  | + 2,476                                    | 220,930                            | 17,387                   | 19,559  | + 2,172                                    |
| 2-3                                           | 247,391                            | 9,507                    | 9,470   | - 37                                       | 241,481                            | 8,326                    | 8,303   | - 23                                       |
| 3-4                                           | 241,985                            | 5,789                    | 5,726   | - 63                                       | 237,435                            | 5,326                    | 5,201   | - 125                                      |
| 4-8                                           | 1,114,968                          | 14,010                   | 13,907  | - 103                                      | 1,097,420                          | 12,813                   | 12,826  | + 13                                       |
| 9-13                                          | 1,045,357                          | 7,503                    | 7,504   | + 1                                        | 1,031,712                          | 6,499                    | 6,499   | 0                                          |
| 14-18                                         | 1,072,282                          | 10,431                   | 10,400  | - 31                                       | 1,089,794                          | 9,735                    | 9,700   | - 35                                       |
| 19-23                                         | 1,137,579                          | 17,373                   | 17,373  | 0                                          | 1,157,307                          | 15,396                   | 15,391  | - 5                                        |
| 24-28                                         | 1,138,468                          | 19,547                   | 19,528  | - 19                                       | 1,102,933                          | 17,814                   | 17,816  | + 2                                        |
| 29-33                                         | 986,363                            | 20,624                   | 20,670  | + 46                                       | 933,762                            | 17,519                   | 17,535  | + 16                                       |
| 34-38                                         | 939,670                            | 25,049                   | 25,047  | - 2                                        | 897,869                            | 19,739                   | 19,732  | - 7                                        |
| 39-43                                         | 822,563                            | 26,300                   | 26,351  | + 51                                       | 772,143                            | 19,338                   | 19,371  | + 33                                       |
| 44-48                                         | 677,916                            | 27,020                   | 27,012  | - 8                                        | 643,864                            | 20,218                   | 20,189  | - 29                                       |
| 49-53                                         | 602,619                            | 29,779                   | 29,904  | + 125                                      | 564,219                            | 22,686                   | 22,815  | + 129                                      |
| 54-58                                         | 441,362                            | 30,883                   | 30,929  | + 46                                       | 424,910                            | 24,827                   | 24,877  | + 50                                       |
| 59-63                                         | 343,000                            | 34,371                   | 34,486  | + 115                                      | 346,327                            | 29,208                   | 29,372  | + 164                                      |
| 64-68                                         | 264,114                            | 37,808                   | 37,935  | + 127                                      | 275,303                            | 34,317                   | 34,443  | + 126                                      |
| 69-73                                         | 182,916                            | 37,736                   | 37,845  | + 109                                      | 194,365                            | 36,445                   | 36,575  | + 130                                      |
| 74-78                                         | 111,158                            | 34,467                   | 34,580  | + 113                                      | 125,259                            | 34,568                   | 34,712  | + 144                                      |
| 79-83                                         | 54,051                             | 25,041                   | 25,060  | + 19                                       | 63,453                             | 27,254                   | 27,272  | + 18                                       |
| 84-88                                         | 21,856                             | 14,412                   | 14,451  | + 39                                       | 27,991                             | 17,196                   | 17,213  | + 17                                       |
| 89-93                                         | 5,827                              | 5,218                    | 5,149   | - 69                                       | 8,140                              | 7,135                    | 7,100   | - 35                                       |
| 94-98                                         | 954                                | 1,136                    | 1,066   | - 70                                       | 1,565                              | 1,913                    | 1,888   | - 25                                       |
| 99-103                                        | 112                                | 183                      | 172     | - 11                                       | 192                                | 306                      | 261     | - 45                                       |
| 104 and over                                  | 16                                 | 29                       | 29      | 0                                          | 30                                 | 52                       | 52      | 0                                          |
| TOTALS.                                       |                                    |                          |         |                                            |                                    |                          |         |                                            |
| Positive                                      | 11,932,963                         | 556,913                  | 567,661 | 413                                        | 11,706,221                         | 487,895                  | 496,378 | 266                                        |
| Negative                                      |                                    |                          |         | 11,161                                     |                                    |                          |         | 8,749                                      |
| Net                                           |                                    |                          |         | -10,748                                    |                                    |                          |         | -8,483                                     |
| Absolute                                      |                                    |                          |         | 11,574                                     |                                    |                          |         | 9,015                                      |
| TOTALS, EXCLUDING THOSE FOR AGES 0-1 AND 1-2. |                                    |                          |         |                                            |                                    |                          |         |                                            |
| Positive                                      | 11,452,527                         | 434,216                  | 434,594 | 413                                        | 11,237,474                         | 388,630                  | 389,206 | 266                                        |
| Negative                                      |                                    |                          |         | 791                                        |                                    |                          |         | 812                                        |
| Net                                           |                                    |                          |         | -378                                       |                                    |                          |         | -576                                       |
| Absolute                                      |                                    |                          |         | 1,204                                      |                                    |                          |         | 1,108                                      |

VARIATION OF RATES OF MORTALITY WITH QUINQUENNIAL AGE GROUPS OF STATISTICS TO WHICH THE OSCULATORY INTERPOLATION FORMULA IS APPLIED.

129. An examination of the original statistics shows that there is a bunching of figures for populations and deaths at ages which are multiples of 2 and 5, especially pronounced at ages ending in the digits 0, 5, and 8. On this account the selection of the quinquennial age groups becomes important, because this selec-

tion determines the location within these groups of the ages ending in 0, 5, and 8. Designating each of the five possible quinquennial age groups by the ages in its first group, these are group 0-4, group 1-5, group 2-6, group 3-7, and group 4-8, respectively. When statistics are summed according to the group 3-7, the central age of each sum ends in 0 or 5. Group 3-7 is the central one of the five possible groups in the tables which follow. These tables begin with group 1-5

and end with group 0-4 (or 5-9, as it is designated when it follows group 4-8). The male population in the state of New York, estimated as of July 1, 1910, and the deaths for the three-year period 1909-1911 from Table 159, page 450, were each added in each of the five quinquennial age groups and graduated by application of the fifth difference osculatory interpolation formula to each of these groups. The rates of mortality, ages 15 to 85, from each of these five sets of graduated population and mortality statistics and also those from the average of these five sets of graduated

populations and mortality statistics, or *average group*, are shown in Table 122. The rates of mortality in this average group are in fact the rates which would be obtained by applying King's 29-term osculatory interpolation formula<sup>1</sup> to the original statistics. The rates of mortality in the second column of Table 122 are from the ungraduated population and mortality statistics and are designated the *observed rates*,  $o_{1x}$ .

<sup>1</sup> Notes on Summation Formulas of Graduation with Certain New Formulas for Consideration. George King. Journal of the Institute of Actuaries, vol. 41, p. 543.

TABLE 122.—VARIOUS RATES OF MORTALITY OBTAINED FROM SAME ORIGINAL STATISTICS.

Statistics used were populations estimated as of July 1, 1910, and reported deaths for 1909, 1910, and 1911 of males in the state of New York. See Table 159, p. 450.

*Observed rates of mortality from ungraduated population and mortality statistics,  $o_{1x}$ .*

*Rates of mortality from population and mortality statistics graduated by applying fifth difference osculatory interpolation formula to original statistics grouped in each of the five quinquennial age groups.*

*Rates of mortality from the average of these five sets of graduated population and mortality statistics, *average group*.\**

| AGE. | Observed rates, $o_{1x}$ . | AGE GROUP OF POPULATION AND MORTALITY STATISTICS TO WHICH OSCULATORY INTERPOLATION FORMULA WAS APPLIED. |         |         |         |         | Average group. | AGE. | Observed rates, $o_{1x}$ . | AGE GROUP OF POPULATION AND MORTALITY STATISTICS TO WHICH OSCULATORY INTERPOLATION FORMULA WAS APPLIED. |         |         |         |         | Average group. |
|------|----------------------------|---------------------------------------------------------------------------------------------------------|---------|---------|---------|---------|----------------|------|----------------------------|---------------------------------------------------------------------------------------------------------|---------|---------|---------|---------|----------------|
|      |                            | 1-5                                                                                                     | 2-6     | 3-7     | 4-8     | 5-9     |                |      |                            | 1-5                                                                                                     | 2-6     | 3-7     | 4-8     | 5-9     |                |
| 15   | .002518                    | .003093                                                                                                 | .002895 | .002877 | .002992 | .003074 | .002987        | 50   | .017763                    | .018972                                                                                                 | .019007 | .018567 | .018947 | .019056 | .018905        |
| 16   | .003119                    | .003178                                                                                                 | .003362 | .003306 | .003365 | .003508 | .003404        | 51   | .021702                    | .020207                                                                                                 | .020069 | .019630 | .019817 | .019881 | .019893        |
| 17   | .004103                    | .003974                                                                                                 | .003884 | .003783 | .003774 | .003932 | .003869        | 52   | .020750                    | .021653                                                                                                 | .021235 | .020846 | .020895 | .020817 | .021078        |
| 18   | .004311                    | .004403                                                                                                 | .004470 | .004274 | .004190 | .004289 | .004326        | 53   | .023107                    | .023198                                                                                                 | .022332 | .022317 | .022221 | .021973 | .022439        |
| 19   | .004908                    | .004710                                                                                                 | .004925 | .004794 | .004620 | .004591 | .004728        | 54   | .023826                    | .024033                                                                                                 | .023959 | .024167 | .023717 | .023402 | .023964        |
| 20   | .005047                    | .004936                                                                                                 | .005162 | .005187 | .005069 | .004910 | .005053        | 55   | .025661                    | .025954                                                                                                 | .025510 | .026138 | .025453 | .025035 | .025610        |
| 21   | .005313                    | .005187                                                                                                 | .005268 | .005398 | .005421 | .005241 | .005303        | 56   | .027156                    | .027406                                                                                                 | .027208 | .027913 | .027382 | .026956 | .027369        |
| 22   | .005556                    | .005451                                                                                                 | .005410 | .005503 | .005630 | .005513 | .005501        | 57   | .030292                    | .029908                                                                                                 | .029119 | .029155 | .029348 | .029133 | .029190        |
| 23   | .005676                    | .005682                                                                                                 | .005555 | .005639 | .005755 | .005715 | .005669        | 58   | .030613                    | .030650                                                                                                 | .031282 | .031163 | .031302 | .031352 | .031144        |
| 24   | .005670                    | .005870                                                                                                 | .005729 | .005779 | .005901 | .005882 | .005834        | 59   | .032627                    | .032850                                                                                                 | .033601 | .032931 | .033434 | .033498 | .033256        |
| 25   | .006018                    | .006062                                                                                                 | .005966 | .005957 | .006051 | .006064 | .006020        | 60   | .033531                    | .035501                                                                                                 | .035918 | .034913 | .035721 | .035777 | .035561        |
| 26   | .005961                    | .006253                                                                                                 | .006260 | .006206 | .006232 | .006251 | .006240        | 61   | .042609                    | .038367                                                                                                 | .038183 | .037332 | .038087 | .038141 | .038019        |
| 27   | .006700                    | .006437                                                                                                 | .006559 | .006512 | .006483 | .006483 | .006494        | 62   | .039533                    | .041595                                                                                                 | .040535 | .040171 | .040540 | .040527 | .040668        |
| 28   | .006996                    | .006699                                                                                                 | .006871 | .006822 | .006802 | .006789 | .006796        | 63   | .045923                    | .044789                                                                                                 | .042909 | .043140 | .043103 | .043022 | .043379        |
| 29   | .006991                    | .007096                                                                                                 | .007236 | .007139 | .007139 | .007161 | .007154        | 64   | .045997                    | .017527                                                                                                 | .045441 | .046326 | .045759 | .045698 | .046134        |
| 30   | .007223                    | .007615                                                                                                 | .007600 | .007518 | .007500 | .007550 | .007569        | 65   | .046306                    | .049892                                                                                                 | .048350 | .049578 | .048472 | .048477 | .048942        |
| 31   | .008780                    | .008176                                                                                                 | .008125 | .007987 | .007945 | .007959 | .008030        | 66   | .051497                    | .052383                                                                                                 | .051704 | .052715 | .051448 | .051343 | .051913        |
| 32   | .008352                    | .008820                                                                                                 | .008611 | .008529 | .008474 | .008434 | .008573        | 67   | .059346                    | .054790                                                                                                 | .055270 | .055793 | .054869 | .054530 | .055048        |
| 33   | .009134                    | .009451                                                                                                 | .009126 | .009107 | .009036 | .008973 | .009135        | 68   | .058541                    | .057773                                                                                                 | .059112 | .059043 | .058737 | .058190 | .058567        |
| 34   | .009400                    | .009939                                                                                                 | .009642 | .009744 | .009605 | .009539 | .009691        | 69   | .062558                    | .061977                                                                                                 | .063354 | .062357 | .062832 | .062304 | .062564        |
| 35   | .010558                    | .010297                                                                                                 | .010136 | .010345 | .010191 | .010116 | .010216        | 70   | .060207                    | .067383                                                                                                 | .067930 | .066149 | .067279 | .066706 | .067081        |
| 36   | .010451                    | .010608                                                                                                 | .010615 | .010820 | .010723 | .010722 | .010709        | 71   | .081739                    | .073265                                                                                                 | .072752 | .070840 | .072074 | .071459 | .072065        |
| 37   | .011543                    | .011017                                                                                                 | .011112 | .011191 | .011176 | .011254 | .011149        | 72   | .077538                    | .080025                                                                                                 | .077922 | .076459 | .077257 | .076645 | .077637        |
| 38   | .011229                    | .011394                                                                                                 | .011629 | .011572 | .011589 | .011673 | .011570        | 73   | .087726                    | .086959                                                                                                 | .083465 | .082635 | .082881 | .082350 | .083620        |
| 39   | .012203                    | .011874                                                                                                 | .012123 | .011938 | .012030 | .012032 | .011998        | 74   | .086505                    | .093164                                                                                                 | .089253 | .089693 | .089123 | .088674 | .089943        |
| 40   | .011872                    | .012472                                                                                                 | .012585 | .012325 | .012487 | .012419 | .012456        | 75   | .093801                    | .098734                                                                                                 | .095481 | .097079 | .096160 | .095812 | .096828        |
| 41   | .014395                    | .013117                                                                                                 | .013040 | .012807 | .012970 | .012813 | .012947        | 76   | .102104                    | .104978                                                                                                 | .102533 | .104184 | .103554 | .104082 | .103856        |
| 42   | .013163                    | .013858                                                                                                 | .013525 | .013398 | .013491 | .013281 | .013506        | 77   | .115307                    | .111662                                                                                                 | .110726 | .111169 | .110997 | .112716 | .111454        |
| 43   | .014263                    | .014588                                                                                                 | .014037 | .014048 | .014055 | .013870 | .014113        | 78   | .126843                    | .119078                                                                                                 | .120613 | .119208 | .118688 | .120919 | .119696        |
| 44   | .014336                    | .015155                                                                                                 | .014604 | .014804 | .014653 | .014550 | .014748        | 79   | .131266                    | .127885                                                                                                 | .131739 | .128402 | .127478 | .128759 | .128819        |
| 45   | .015827                    | .015579                                                                                                 | .015230 | .015594 | .015299 | .015256 | .015387        | 80   | .124430                    | .138347                                                                                                 | .142757 | .138554 | .137656 | .137566 | .138929        |
| 46   | .015673                    | .016033                                                                                                 | .015897 | .016268 | .015990 | .016011 | .016037        | 81   | .158798                    | .150225                                                                                                 | .153005 | .149482 | .148792 | .147336 | .149738        |
| 47   | .017284                    | .016467                                                                                                 | .016587 | .016814 | .016702 | .016781 | .016668        | 82   | .155871                    | .164574                                                                                                 | .164357 | .161054 | .160239 | .157842 | .161581        |
| 48   | .016831                    | .017026                                                                                                 | .017301 | .017377 | .017424 | .017528 | .017328        | 83   | .184310                    | .179560                                                                                                 | .176686 | .173934 | .171738 | .169147 | .174163        |
| 49   | .018381                    | .017857                                                                                                 | .018090 | .017909 | .018177 | .018266 | .018057        | 84   | .182191                    | .192293                                                                                                 | .188520 | .188585 | .184442 | .181357 | .186994        |
|      |                            |                                                                                                         |         |         |         |         |                | 85   | .199487                    | .202042                                                                                                 | .199551 | .204286 | .198539 | .194890 | .199647        |

\* Average values of population and mortality statistics graduated from all five quinquennial age groups could also be obtained by the 29-term osculatory interpolation formula. See Notes on Summation Formulas of Graduation. George King. Journal of the Institute of Actuaries, vol. 41, p. 543.

Table 123 shows the excess of  $10^6 q_x$  for the groups 1-5, 2-6, 3-7, 4-8, and 5-9, respectively, over the average group in Table 122, that is, the deviations for each group from their mean or average values. It will be observed that the totals are given for each of the five different groups for the age intervals 15-85 and

28-77. The age interval 28-77 was chosen because the decided exaggeration of populations and deaths for ages ending in 0, 5, and 8 apparently lies within these limits. The totals in Table 123 show that the groups 2-6, 3-7, and 4-8 bear this test well, and the absolute totals, 21,417 and 8,574, quite definitely favor the group 4-8.

TABLE 123.—DEVIATIONS OF RATES OF MORTALITY FOR EACH GROUP FROM THOSE FOR THE AVERAGE GROUP IN TABLE 122, MULTIPLIED BY  $10^6$ .

| AGE. | AGE GROUP OF POPULATION AND MORTALITY STATISTICS TO WHICH OSCULATORY INTERPOLATION FORMULA WAS APPLIED. |     |     |     |     |     |     |     |     |     | AGE.                                   | AGE GROUP OF POPULATION AND MORTALITY STATISTICS TO WHICH OSCULATORY INTERPOLATION FORMULA WAS APPLIED. |         |        |         |         |     |       |     |       |       |
|------|---------------------------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------------------------------|---------------------------------------------------------------------------------------------------------|---------|--------|---------|---------|-----|-------|-----|-------|-------|
|      | 1-5                                                                                                     |     | 2-6 |     | 3-7 |     | 4-8 |     | 5-9 |     |                                        | 1-5                                                                                                     |         | 2-6    |         | 3-7     |     | 4-8   |     | 5-9   |       |
|      | +                                                                                                       | -   | +   | -   | +   | -   | +   | -   | +   | -   |                                        | +                                                                                                       | -       | +      | -       | +       | -   | +     | -   | +     | -     |
| 15   | 106                                                                                                     |     |     | 92  |     | 110 |     | 5   |     | 87  | 60                                     |                                                                                                         | 60      |        | 357     |         | 648 |       | 160 |       | 216   |
| 16   | 74                                                                                                      |     |     | 42  |     | 98  |     | 39  |     | 104 | 61                                     |                                                                                                         | 348     |        | 164     |         | 687 |       | 68  |       | 122   |
| 17   | 105                                                                                                     |     | 15  |     |     | 86  |     | 95  |     | 63  | 62                                     |                                                                                                         | 927     |        | 133     |         | 497 |       | 128 |       | 141   |
| 18   | 77                                                                                                      |     | 144 |     |     | 52  |     | 136 |     | 37  | 63                                     |                                                                                                         | 1,410   |        | 470     |         | 239 |       | 276 |       | 357   |
| 19   |                                                                                                         | 18  | 197 |     | 66  |     | 108 |     |     | 137 | 64                                     |                                                                                                         | 1,393   |        | 693     | 192     |     | 375   |     |       | 436   |
| 20   |                                                                                                         | 117 | 109 |     | 134 |     | 16  |     |     | 143 | 65                                     |                                                                                                         | 950     |        | 592     | 636     |     | 470   |     |       | 165   |
| 21   |                                                                                                         | 116 |     | 35  | 95  |     | 118 |     |     | 62  | 66                                     |                                                                                                         | 470     |        | 209     | 802     |     | 165   |     |       | 570   |
| 22   |                                                                                                         | 50  |     | 91  | 2   |     | 129 |     | 12  |     | 67                                     |                                                                                                         |         | 258    | 222     | 745     |     | 179   |     |       | 518   |
| 23   |                                                                                                         | 13  |     | 114 | 30  |     | 86  |     | 46  |     | 68                                     |                                                                                                         |         | 794    | 545     | 476     |     | 170   |     |       | 377   |
| 24   |                                                                                                         | 45  |     | 105 | 55  |     | 67  |     | 48  |     | 69                                     |                                                                                                         |         | 587    | 790     |         | 207 | 258   |     |       | 260   |
| 25   |                                                                                                         | 42  |     | 54  | 63  |     | 31  |     | 44  |     | 70                                     |                                                                                                         |         | 302    |         | 849     | 932 | 108   |     |       | 375   |
| 26   |                                                                                                         | 13  |     | 20  | 34  |     | 8   |     | 11  |     | 71                                     |                                                                                                         |         | 1,200  |         | 687     |     | 1,225 | 9   |       | 606   |
| 27   |                                                                                                         | 57  |     | 65  | 18  |     | 11  |     |     | 11  | 72                                     |                                                                                                         |         | 2,388  |         | 285     |     | 1,178 |     | 360   | 992   |
| 28   |                                                                                                         | 97  |     | 75  | 26  |     | 6   |     | 7   |     | 73                                     |                                                                                                         |         | 3,339  |         | 155     | 985 | 739   |     |       | 1,270 |
| 29   |                                                                                                         | 58  |     | 82  | 15  |     | 15  |     | 7   |     | 74                                     |                                                                                                         |         | 3,221  |         | 690     | 250 | 820   |     |       | 1,269 |
| 30   |                                                                                                         | 46  |     | 91  | 51  |     | 69  |     | 19  |     | 75                                     |                                                                                                         |         | 2,106  |         | 1,147   | 451 | 468   |     |       | 816   |
| 31   |                                                                                                         | 137 |     | 86  | 52  |     | 94  |     | 80  |     | 76                                     |                                                                                                         |         | 1,122  |         | 1,323   | 328 | 302   |     | 226   |       |
| 32   |                                                                                                         | 247 |     | 38  | 44  |     | 99  |     | 139 |     | 77                                     |                                                                                                         |         | 208    |         | 728     |     | 285   |     |       | 1,262 |
| 33   |                                                                                                         | 316 |     | 9   | 28  |     | 99  |     | 162 |     | 78                                     |                                                                                                         |         | 617    |         | 918     |     | 487   |     | 1,007 | 1,221 |
| 34   |                                                                                                         | 248 |     | 49  | 53  |     | 86  |     | 152 |     | 79                                     |                                                                                                         |         | 924    |         | 2,020   |     | 417   |     | 1,341 | 60    |
| 35   |                                                                                                         | 81  |     | 80  | 129 |     | 25  |     | 100 |     | 80                                     |                                                                                                         |         | 582    |         | 3,828   |     | 375   |     | 1,273 | 1,363 |
| 36   |                                                                                                         | 41  |     | 94  | 111 |     | 14  |     | 13  |     | 81                                     |                                                                                                         |         | 487    |         | 3,267   |     | 256   |     | 946   | 2,402 |
| 37   |                                                                                                         | 132 |     | 37  | 42  |     | 27  |     | 105 |     | 82                                     |                                                                                                         |         | 2,993  |         | 2,776   |     | 527   |     | 1,342 | 3,739 |
| 38   |                                                                                                         | 176 |     | 59  | 2   |     | 19  |     | 103 |     | 83                                     |                                                                                                         |         | 5,397  |         | 2,523   |     | 229   |     | 2,425 | 5,016 |
| 39   |                                                                                                         | 124 |     | 125 | 60  |     | 32  |     | 34  |     | 84                                     |                                                                                                         |         | 5,299  |         | 1,526   |     | 1,591 |     | 2,552 | 5,637 |
| 40   |                                                                                                         | 10  |     | 129 | 128 |     | 31  |     | 37  |     | 85                                     |                                                                                                         |         | 2,395  |         | 96      |     | 3,639 |     | 1,108 | 4,757 |
| 41   |                                                                                                         | 170 |     | 93  | 140 |     | 23  |     | 134 |     | TOTALS, AGES 15 TO 85, BOTH INCLUSIVE. |                                                                                                         |         |        |         |         |     |       |     |       |       |
| 42   |                                                                                                         | 352 |     | 19  | 108 |     | 15  |     | 225 |     | Positive                               | 41,882                                                                                                  | 24,048  | 11,786 | 2,296   | 4,850   |     |       |     |       |       |
| 43   |                                                                                                         | 475 |     | 76  | 65  |     | 58  |     | 243 |     | Negative                               | 6,697                                                                                                   | 8,000   | 12,141 | 19,121  | 35,815  |     |       |     |       |       |
| 44   |                                                                                                         | 407 |     | 144 | 56  |     | 95  |     | 198 |     | Net                                    | +35,185                                                                                                 | +16,048 | -355   | -16,825 | -30,965 |     |       |     |       |       |
| 45   |                                                                                                         | 192 |     | 157 | 207 |     | 88  |     | 131 |     | Absolute                               | 48,579                                                                                                  | 32,048  | 23,927 | 21,417  | 40,665  |     |       |     |       |       |
| 46   |                                                                                                         | 4   |     | 140 | 231 |     | 47  |     | 26  |     | TOTALS, AGES 28 TO 77, BOTH INCLUSIVE. |                                                                                                         |         |        |         |         |     |       |     |       |       |
| 47   |                                                                                                         | 291 |     | 81  | 146 |     | 34  |     | 113 |     | Positive                               | 24,836                                                                                                  | 5,740   | 6,241  | 1,844   | 3,211   |     |       |     |       |       |
| 48   |                                                                                                         | 302 |     | 27  | 49  |     | 96  |     | 200 |     | Negative                               | 4,216                                                                                                   | 7,371   | 9,322  | 6,730   | 12,451  |     |       |     |       |       |
| 49   |                                                                                                         | 200 |     | 33  | 148 |     | 120 |     | 209 |     | Net                                    | +20,620                                                                                                 | -1,631  | -3,081 | -4,886  | -9,240  |     |       |     |       |       |
| 50   |                                                                                                         | 67  |     | 102 | 338 |     | 42  |     | 151 |     | Absolute                               | 29,052                                                                                                  | 13,111  | 15,563 | 8,574   | 15,662  |     |       |     |       |       |
| 51   |                                                                                                         | 314 |     | 176 | 363 |     | 76  |     | 12  |     |                                        |                                                                                                         |         |        |         |         |     |       |     |       |       |
| 52   |                                                                                                         | 575 |     | 157 | 232 |     | 183 |     | 261 |     |                                        |                                                                                                         |         |        |         |         |     |       |     |       |       |
| 53   |                                                                                                         | 759 |     | 93  | 92  |     | 218 |     | 166 |     |                                        |                                                                                                         |         |        |         |         |     |       |     |       |       |
| 54   |                                                                                                         | 669 |     | 5   | 203 |     | 247 |     | 562 |     |                                        |                                                                                                         |         |        |         |         |     |       |     |       |       |
| 55   |                                                                                                         | 344 |     | 100 | 528 |     | 157 |     | 575 |     |                                        |                                                                                                         |         |        |         |         |     |       |     |       |       |
| 56   |                                                                                                         | 37  |     | 161 | 544 |     | 13  |     | 413 |     |                                        |                                                                                                         |         |        |         |         |     |       |     |       |       |
| 57   |                                                                                                         | 282 |     | 71  | 265 |     | 158 |     | 57  |     |                                        |                                                                                                         |         |        |         |         |     |       |     |       |       |
| 58   |                                                                                                         | 494 |     | 135 | 19  |     | 158 |     | 208 |     |                                        |                                                                                                         |         |        |         |         |     |       |     |       |       |
| 59   |                                                                                                         | 406 |     | 345 | 325 |     | 178 |     | 242 |     |                                        |                                                                                                         |         |        |         |         |     |       |     |       |       |

In Table 124 the groups are considered from another angle, namely,  $10^5$  times the third differences of the rates of mortality in Table 122 for each age and the various totals of the same. While the indications here are not decisive, it is noted that the sums of the absolute values, 1,073 for age interval 15-85 and 479 for age interval 28-77, show that the smallest differences are in the 4-8 group. The net differences in the two

age intervals, however, -143 and 137, respectively, are larger than in most of the other groups.

Papps<sup>1</sup> has discussed the methods employed in Tables 123 and 124, and from results he obtained in age intervals 30-37 and 30-40, respectively, declares in favor of group 3-7.

<sup>1</sup> Effect of Grouping in Graduation by Osculatory Interpolation. P. C. H. Papps. Quarterly Publication of the American Statistical Association, vol. 16, p. 190.



TABLE 124.—THIRD DIFFERENCES OF GRADUATED RATES OF MORTALITY IN TABLE 122.

$$10^5 \delta^3 q_x.$$

Rates were taken to nearest fifth decimal place and multiplied by 10.

| AGE. | AGE GROUP OF POPULATION AND MORTALITY STATISTICS TO WHICH OSCULATORY INTERPOLATION FORMULA WAS APPLIED. |    |     |    |     |    |     |    |     |    | Average group. |
|------|---------------------------------------------------------------------------------------------------------|----|-----|----|-----|----|-----|----|-----|----|----------------|
|      | 1-5                                                                                                     |    | 2-6 |    | 3-7 |    | 4-8 |    | 5-9 |    |                |
|      | +                                                                                                       | -  | +   | -  | +   | -  | +   | -  | +   | -  |                |
| 15   |                                                                                                         | 16 |     | 1  |     | 2  |     | 0  |     | 4  | 7              |
| 16   |                                                                                                         | 6  |     | 20 |     | 1  |     | 1  |     | 9  | 5              |
| 17   |                                                                                                         | 4  |     | 10 |     | 15 |     | 1  |     | 8  | 2              |
| 18   |                                                                                                         | 10 |     | 11 |     | 7  |     | 12 |     | 1  | 1              |
| 19   |                                                                                                         | 1  |     | 15 |     | 8  |     | 4  |     | 7  | 2              |
| 20   |                                                                                                         | 4  |     | 2  |     | 15 |     | 6  |     | 0  | 2              |
| 21   |                                                                                                         | 0  |     | 1  |     | 4  |     | 9  |     | 1  | 2              |
| 22   |                                                                                                         | 1  |     | 5  |     | 4  |     | 0  |     | 7  | 4              |
| 23   |                                                                                                         | 3  |     | 2  |     | 3  |     | 2  |     | 1  | 0              |
| 24   |                                                                                                         | 1  |     | 4  |     | 2  |     | 4  |     | 3  | 0              |
| 25   |                                                                                                         | 7  |     | 0  |     | 4  |     | 0  |     | 4  | 3              |
| 26   |                                                                                                         | 7  |     | 5  |     | 0  |     | 5  |     | 2  | 2              |
| 27   |                                                                                                         | 2  |     | 1  |     | 5  |     | 0  |     | 4  | 3              |
| 28   |                                                                                                         | 8  |     | 0  |     | 3  |     | 7  |     | 0  | 2              |
| 29   |                                                                                                         | 4  |     | 4  |     | 2  |     | 2  |     | 4  | 1              |
| 30   |                                                                                                         | 9  |     | 3  |     | 3  |     | 2  |     | 1  | 2              |
| 31   |                                                                                                         | 13 |     | 5  |     | 1  |     | 5  |     | 4  | 6              |
| 32   |                                                                                                         | 1  |     | 0  |     | 7  |     | 1  |     | 2  | 9              |
| 33   |                                                                                                         | 14 |     | 1  |     | 12 |     | 6  |     | 1  | 2              |
| 34   |                                                                                                         | 3  |     | 3  |     | 4  |     | 2  |     | 9  | 1              |
| 35   |                                                                                                         | 4  |     | 2  |     | 11 |     | 2  |     | 4  | 3              |
| 36   |                                                                                                         | 9  |     | 6  |     | 2  |     | 8  |     | 5  | 3              |
| 37   |                                                                                                         | 1  |     | 1  |     | 3  |     | 1  |     | 9  | 2              |
| 38   |                                                                                                         | 7  |     | 0  |     | 7  |     | 0  |     | 3  | 0              |
| 39   |                                                                                                         | 4  |     | 6  |     | 2  |     | 2  |     | 8  | 4              |
| 40   |                                                                                                         | 10 |     | 2  |     | 5  |     | 1  |     | 4  | 3              |
| 41   |                                                                                                         | 15 |     | 3  |     | 4  |     | 3  |     | 3  | 0              |
| 42   |                                                                                                         | 1  |     | 2  |     | 6  |     | 4  |     | 6  | 4              |
| 43   |                                                                                                         | 18 |     | 3  |     | 15 |     | 2  |     | 1  | 1              |
| 44   |                                                                                                         | 4  |     | 2  |     | 3  |     | 2  |     | 2  | 3              |
| 45   |                                                                                                         | 13 |     | 6  |     | 17 |     | 1  |     | 4  | 5              |
| 46   |                                                                                                         | 15 |     | 6  |     | 7  |     | 3  |     | 1  | 4              |
| 47   |                                                                                                         | 1  |     | 5  |     | 17 |     | 3  |     | 6  | 5              |
| 48   |                                                                                                         | 15 |     | 1  |     | 17 |     | 9  |     | 2  | 1              |
| 49   |                                                                                                         | 7  |     | 3  |     | 6  |     | 11 |     | 9  | 8              |
| 50   |                                                                                                         | 9  |     | 1  |     | 18 |     | 3  |     | 9  | 4              |
| 51   |                                                                                                         | 23 |     | 2  |     | 14 |     | 6  |     | 7  | 1              |
| 52   |                                                                                                         | 1  |     | 2  |     | 17 |     | 5  |     | 7  | 3              |
| 53   |                                                                                                         | 25 |     | 3  |     | 35 |     | 3  |     | 7  | 2              |
| 54   |                                                                                                         | 10 |     | 6  |     | 2  |     | 16 |     | 3  | 5              |
| 55   |                                                                                                         | 20 |     | 4  |     | 37 |     | 6  |     | 20 | 7              |
| 56   |                                                                                                         | 22 |     | 9  |     | 8  |     | 20 |     | 12 | 4              |
| 57   |                                                                                                         | 1  |     | 16 |     | 14 |     | 2  |     | 20 | 1              |
| 58   |                                                                                                         | 23 |     | 6  |     | 23 |     | 8  |     | 5  | 2              |
| 59   |                                                                                                         | 14 |     | 16 |     | 2  |     | 0  |     | 5  | 3              |

| AGE. | AGE GROUP OF POPULATION AND MORTALITY STATISTICS TO WHICH OSCULATORY INTERPOLATION FORMULA WAS APPLIED. |     |     |     |     |     |     |     |     |     | Average group. |
|------|---------------------------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------|
|      | 1-5                                                                                                     |     | 2-6 |     | 3-7 |     | 4-8 |     | 5-9 |     |                |
|      | +                                                                                                       | -   | +   | -   | +   | -   | +   | -   | +   | -   |                |
| 60   |                                                                                                         | 40  |     | 9   |     | 29  |     | 3   |     | 7   | 13             |
| 61   |                                                                                                         | 41  |     | 15  |     | 9   |     | 1   |     | 9   | 2              |
| 62   |                                                                                                         | 7   |     | 22  |     | 16  |     | 5   |     | 9   | 2              |
| 63   |                                                                                                         | 51  |     | 6   |     | 17  |     | 22  |     | 2   | 10             |
| 64   |                                                                                                         | 21  |     | 22  |     | 4   |     | 17  |     | 25  | 1              |
| 65   |                                                                                                         | 65  |     | 5   |     | 25  |     | 1   |     | 14  | 21             |
| 66   |                                                                                                         | 66  |     | 13  |     | 11  |     | 21  |     | 2   | 9              |
| 67   |                                                                                                         | 4   |     | 6   |     | 40  |     | 5   |     | 15  | 6              |
| 68   |                                                                                                         | 70  |     | 10  |     | 43  |     | 4   |     | 4   | 6              |
| 69   |                                                                                                         | 38  |     | 11  |     | 3   |     | 4   |     | 10  | 11             |
| 70   |                                                                                                         | 70  |     | 3   |     | 37  |     | 3   |     | 7   | 17             |
| 71   |                                                                                                         | 90  |     | 15  |     | 31  |     | 19  |     | 11  | 7              |
| 72   |                                                                                                         | 10  |     | 22  |     | 53  |     | 15  |     | 20  | 3              |
| 73   |                                                                                                         | 131 |     | 37  |     | 63  |     | 45  |     | 31  | 17             |
| 74   |                                                                                                         | 25  |     | 33  |     | 15  |     | 29  |     | 76  | 18             |
| 75   |                                                                                                         | 31  |     | 53  |     | 116 |     | 13  |     | 81  | 30             |
| 76   |                                                                                                         | 66  |     | 43  |     | 10  |     | 86  |     | 8   | 21             |
| 77   |                                                                                                         | 23  |     | 136 |     | 19  |     | 29  |     | 133 | 12             |
| 78   |                                                                                                         | 20  |     | 66  |     | 18  |     | 44  |     | 1   | 29             |
| 79   |                                                                                                         | 103 |     | 187 |     | 14  |     | 63  |     | 23  | 33             |
| 80   |                                                                                                         | 181 |     | 12  |     | 67  |     | 27  |     | 8   | 29             |
| 81   |                                                                                                         | 291 |     | 148 |     | 47  |     | 115 |     | 9   | 49             |
| 82   |                                                                                                         | 72  |     | 30  |     | 174 |     | 20  |     | 42  | 42             |
| 83   |                                                                                                         | 319 |     | 41  |     | 160 |     | 137 |     | 64  | 19             |
| 84   |                                                                                                         | 165 |     | 19  |     | 21  |     | 110 |     | 112 | 84             |
| 85   |                                                                                                         | 169 |     | 142 |     | 104 |     | 34  |     | 200 | 20             |

|                                        |       |       |       |       |       |      |
|----------------------------------------|-------|-------|-------|-------|-------|------|
| TOTALS, AGES 15 TO 85, BOTH INCLUSIVE. |       |       |       |       |       |      |
| Positive                               | 1,285 | 550   | 733   | 465   | 517   | 264  |
| Negative                               | 1,270 | 756   | 810   | 608   | 631   | 372  |
| Net                                    | +15   | -206  | -77   | -143  | -114  | -108 |
| Absolute                               | 2,555 | 1,306 | 1,543 | 1,073 | 1,148 | 636  |

|                                        |       |     |     |      |     |     |
|----------------------------------------|-------|-----|-----|------|-----|-----|
| TOTALS, AGES 28 TO 77, BOTH INCLUSIVE. |       |     |     |      |     |     |
| Positive                               | 662   | 284 | 479 | 308  | 371 | 195 |
| Negative                               | 511   | 300 | 389 | 171  | 276 | 103 |
| Net                                    | +151  | -16 | +90 | +137 | +95 | +92 |
| Absolute                               | 1,173 | 584 | 868 | 479  | 647 | 298 |

Another method which may help to decide upon the age group is to find the deviation of the expected deaths from the actual deaths by means of the mortality rates shown in Table 122. The expected deaths were obtained by multiplying three times the estimated population at each age as of July 1, 1910, by the cor-

responding central death rate, the multiplier 3 being used because the deaths are for the three-year period 1909-1911. The results are exhibited in Table 125, and indicate that the choice must lie in the groups 2-6, 3-7, and 4-8, but do not show clearly which of these should be selected.

## UNITED STATES LIFE TABLES.

TABLE 125.—DEVIATION OF EXPECTED DEATHS, ACCORDING TO GRADUATED RATES OF MORTALITY IN TABLE 122, FROM ACTUAL DEATHS.

| AGE GROUP OF POPULATION AND MORTALITY STATISTICS TO WHICH OSCULATORY INTERPOLATION FORMULA WAS APPLIED. |                              |                        |                              |                        |                              |                        |                              |                        |                              |                        |                              | AVERAGE GROUP.         |          | AGE. |
|---------------------------------------------------------------------------------------------------------|------------------------------|------------------------|------------------------------|------------------------|------------------------------|------------------------|------------------------------|------------------------|------------------------------|------------------------|------------------------------|------------------------|----------|------|
| AGE.                                                                                                    | 1-5                          |                        | 2-6                          |                        | 3-7                          |                        | 4-8                          |                        | 5-9                          |                        | Expected less actual deaths. | Accumulated deviation. |          |      |
|                                                                                                         | Expected less actual deaths. | Accumulated deviation. | Expected less actual deaths. | Accumulated deviation. | Expected less actual deaths. | Accumulated deviation. | Expected less actual deaths. | Accumulated deviation. | Expected less actual deaths. | Accumulated deviation. |                              |                        |          |      |
| 15                                                                                                      | + 61                         |                        | + 17                         |                        | + 13                         |                        | + 38                         |                        | + 57                         |                        | + 37                         |                        | 15       |      |
| 16                                                                                                      | 90                           | 61                     | 61                           | 17                     | 47                           | 13                     | 62                           | 38                     | 97                           | 57                     | 72                           | 37                     | 16       |      |
| 17                                                                                                      | 32                           | 151                    | 54                           | 78                     | 78                           | 60                     | 81                           | 100                    | 42                           | 154                    | 57                           | 109                    | 17       |      |
| 18                                                                                                      | 16                           | 119                    | 33                           | 24                     | 19                           | -18                    | 41                           | 19                     | 15                           | 112                    | 5                            | 52                     | 18       |      |
| 19                                                                                                      | 51                           | 135                    | 4                            | 57                     | 29                           | -37                    | 74                           | -22                    | 82                           | 97                     | 46                           | 47                     | 19       |      |
|                                                                                                         |                              | 84                     |                              | 61                     |                              | -66                    |                              | -96                    |                              | 15                     |                              | 1                      |          |      |
| 20                                                                                                      | 30                           | 54                     | 30                           | 91                     | 37                           | -29                    | 6                            | -90                    | 37                           | -22                    | 2                            | 3                      | 20       |      |
| 21                                                                                                      | 35                           | 19                     | 12                           | 79                     | 24                           | -5                     | 30                           | -60                    | 20                           | -42                    | 3                            | 0                      | 21       |      |
| 22                                                                                                      | 30                           | -11                    | 42                           | 37                     | 15                           | -20                    | 21                           | -39                    | 12                           | -54                    | 16                           | -16                    | 22       |      |
| 23                                                                                                      | 2                            | -9                     | 34                           | 3                      | 10                           | -30                    | 22                           | -17                    | 11                           | -43                    | 2                            | -18                    | 23       |      |
| 24                                                                                                      | 60                           | 51                     | 17                           | 20                     | 32                           | 2                      | 67                           | 50                     | 61                           | 18                     | 47                           | 29                     | 24       |      |
| 25                                                                                                      | 4                            | 55                     | 24                           | -4                     | 27                           | -25                    | 1                            | 51                     | 5                            | 23                     | 8                            | 21                     | 25       |      |
| 26                                                                                                      | 82                           | 137                    | 84                           | 80                     | 69                           | 44                     | 76                           | 127                    | 81                           | 104                    | 78                           | 99                     | 26       |      |
| 27                                                                                                      | 92                           | 45                     | 60                           | 20                     | 73                           | -29                    | 80                           | 47                     | 80                           | 24                     | 77                           | 22                     | 27       |      |
| 28                                                                                                      | 88                           | -43                    | 37                           | -17                    | 51                           | -80                    | 57                           | -10                    | 61                           | -37                    | 59                           | -37                    | 28       |      |
| 29                                                                                                      | 25                           | -18                    | 58                           | 41                     | 35                           | -45                    | 35                           | 25                     | 41                           | 4                      | 39                           | 2                      | 29       |      |
| 30                                                                                                      | 127                          | -109                   | 141                          | 182                    | 95                           | 50                     | 90                           | 115                    | 106                          | 110                    | 112                          | 114                    | 30       |      |
| 31                                                                                                      | 116                          | -7                     | 126                          | 56                     | 153                          | -103                   | 161                          | -46                    | 158                          | -48                    | 143                          | -29                    | 31       |      |
| 32                                                                                                      | 117                          | 110                    | 65                           | 121                    | 44                           | -59                    | 30                           | -16                    | 21                           | -27                    | 55                           | 26                     | 32       |      |
| 33                                                                                                      | 69                           | 179                    | 2                            | 119                    | 6                            | -65                    | 22                           | -38                    | 35                           | -62                    | 0                            | 26                     | 33       |      |
| 34                                                                                                      | 100                          | 279                    | 34                           | 153                    | 57                           | -8                     | 25                           | -13                    | 11                           | -51                    | 45                           | 71                     | 34       |      |
| 35                                                                                                      | 71                           | 208                    | 115                          | 38                     | 58                           | -66                    | 100                          | -113                   | 120                          | -171                   | 93                           | -22                    | 35       |      |
| 36                                                                                                      | 47                           | 255                    | 35                           | 73                     | 80                           | 14                     | 59                           | -54                    | 58                           | -113                   | 56                           | 34                     | 36       |      |
| 37                                                                                                      | 103                          | 152                    | 84                           | -11                    | 69                           | -55                    | 72                           | -126                   | 56                           | -169                   | 77                           | -43                    | 37       |      |
| 38                                                                                                      | 39                           | 191                    | 96                           | 85                     | 82                           | 27                     | 86                           | -40                    | 106                          | -63                    | 82                           | 39                     | 38       |      |
| 39                                                                                                      | 63                           | 128                    | 15                           | 70                     | 51                           | -24                    | 33                           | -73                    | 33                           | -96                    | 40                           | -1                     | 39       |      |
| 40                                                                                                      | 168                          | 296                    | 200                          | 270                    | 128                          | 104                    | 173                          | 100                    | 154                          | 58                     | 164                          | 163                    | 40       |      |
| 41                                                                                                      | 184                          | 112                    | 195                          | 75                     | 228                          | -124                   | 205                          | -105                   | 227                          | -169                   | 208                          | -45                    | 41       |      |
| 42                                                                                                      | 144                          | 256                    | 75                           | 150                    | 49                           | -75                    | 68                           | -37                    | 24                           | -145                   | 71                           | 26                     | 42       |      |
| 43                                                                                                      | 53                           | 309                    | 37                           | 113                    | 35                           | -110                   | 34                           | -71                    | 64                           | -209                   | 25                           | 1                      | 43       |      |
| 44                                                                                                      | 128                          | 437                    | 42                           | 155                    | 73                           | -37                    | 49                           | -22                    | 33                           | -176                   | 64                           | 65                     | 44       |      |
| 45                                                                                                      | 51                           | 386                    | 123                          | 32                     | 48                           | -85                    | 109                          | -131                   | 118                          | -294                   | 91                           | -26                    | 45       |      |
| 46                                                                                                      | 52                           | 438                    | 32                           | 64                     | 86                           | 1                      | 46                           | -85                    | 49                           | -245                   | 53                           | 27                     | 46       |      |
| 47                                                                                                      | 114                          | 324                    | 97                           | -33                    | 65                           | -64                    | 81                           | -166                   | 70                           | -315                   | 86                           | -59                    | 47       |      |
| 48                                                                                                      | 31                           | 355                    | 76                           | 43                     | 88                           | 24                     | 96                           | -70                    | 113                          | -202                   | 80                           | 21                     | 48       |      |
| 49                                                                                                      | 74                           | 281                    | 41                           | 2                      | 67                           | -43                    | 29                           | -99                    | 16                           | -218                   | 46                           | -25                    | 49       |      |
| 50                                                                                                      | 242                          | 523                    | 249                          | 251                    | 161                          | 118                    | 237                          | 138                    | 259                          | 41                     | 228                          | 203                    | 50       |      |
| 51                                                                                                      | 157                          | 366                    | 171                          | 80                     | 228                          | -110                   | 198                          | -60                    | 191                          | -150                   | 190                          | 13                     | 51       |      |
| 52                                                                                                      | 123                          | 489                    | 66                           | 146                    | 13                           | -97                    | 20                           | -40                    | 9                            | -141                   | 45                           | 58                     | 52       |      |
| 53                                                                                                      | 10                           | 499                    | 63                           | 83                     | 83                           | -180                   | 97                           | -137                   | 124                          | -265                   | 73                           | -15                    | 53       |      |
| 54                                                                                                      | 91                           | 590                    | 15                           | 98                     | 38                           | -142                   | 12                           | -149                   | 48                           | 313                    | 16                           | 1                      | 54       |      |
| 55                                                                                                      | 31                           | 624                    | 17                           | 81                     | 55                           | -87                    | 24                           | -173                   | 72                           | -385                   | 6                            | -5                     | 55       |      |
| 56                                                                                                      | 25                           | 640                    | 5                            | 80                     | 75                           | -12                    | 22                           | -151                   | 20                           | -405                   | 21                           | 16                     | 56       |      |
| 57                                                                                                      | 113                          | 536                    | 96                           | -10                    | 69                           | -81                    | 77                           | -228                   | 95                           | -500                   | 90                           | -74                    | 57       |      |
| 58                                                                                                      | 3                            | 539                    | 59                           | 49                     | 48                           | -33                    | 61                           | -167                   | 65                           | -435                   | 47                           | -27                    | 58       |      |
| 59                                                                                                      | 17                           | 556                    | 74                           | 123                    | 23                           | -10                    | 62                           | -105                   | 66                           | -369                   | 48                           | 21                     | 59       |      |
| 60                                                                                                      | 216                          | 772                    | 262                          | 385                    | 151                          | 141                    | 240                          | 135                    | 246                          | -123                   | 222                          | 213                    | 60       |      |
| 61                                                                                                      | 241                          | 531                    | 252                          | 133                    | 300                          | -159                   | 257                          | -122                   | 254                          | -377                   | 261                          | -18                    | 61       |      |
| 62                                                                                                      | 148                          | 679                    | 72                           | 205                    | 46                           | -113                   | 72                           | -50                    | 71                           | -306                   | 81                           | 63                     | 62       |      |
| 63                                                                                                      | 72                           | 607                    | 190                          | 15                     | 175                          | -288                   | 178                          | -228                   | 183                          | -489                   | 160                          | -97                    | 63       |      |
| 64                                                                                                      | 93                           | 700                    | 34                           | -19                    | 20                           | -268                   | 14                           | -242                   | 18                           | -507                   | 8                            | -89                    | 64       |      |
| 65                                                                                                      | 277                          | 977                    | 158                          | 139                    | 252                          | -16                    | 167                          | -75                    | 167                          | -340                   | 203                          | 114                    | 65       |      |
| 66                                                                                                      | 45                           | 1,022                  | 10                           | 149                    | 61                           | 45                     | 2                            | -77                    | 8                            | -348                   | 21                           | 135                    | 66       |      |
| 67                                                                                                      | 217                          | 805                    | 195                          | -46                    | 170                          | -125                   | 214                          | -291                   | 230                          | -578                   | 205                          | -70                    | 67       |      |
| 68                                                                                                      | 33                           | 767                    | 28                           | -18                    | 25                           | -100                   | 10                           | -281                   | 17                           | -595                   | 1                            | -69                    | 68       |      |
| 69                                                                                                      | 26                           | 741                    | 35                           | 17                     | 9                            | -109                   | 13                           | -268                   | 11                           | -606                   | 0                            | -69                    | 69       |      |
| 70                                                                                                      | 397                          | 1,138                  | 427                          | 444                    | 328                          | 219                    | 391                          | 123                    | 359                          | -247                   | 380                          | 311                    | 70       |      |
| 71                                                                                                      | 260                          | 878                    | 275                          | 169                    | 334                          | -115                   | 296                          | -173                   | 315                          | -562                   | 296                          | 15                     | 71       |      |
| 72                                                                                                      | 92                           | 970                    | 14                           | 183                    | 40                           | -155                   | 10                           | -183                   | 33                           | -595                   | 4                            | 19                     | 72       |      |
| 73                                                                                                      | 24                           | 946                    | 134                          | 49                     | 160                          | -315                   | 152                          | -335                   | 169                          | -764                   | 129                          | -110                   | 73       |      |
| 74                                                                                                      | 196                          | 1,142                  | 81                           | 130                    | 94                           | -221                   | 77                           | -258                   | 64                           | -700                   | 101                          | -9                     | 74       |      |
| 75                                                                                                      | 152                          | 1,294                  | 52                           | 182                    | 101                          | -120                   | 72                           | -186                   | 62                           | -638                   | 87                           | 78                     | 75       |      |
| 76                                                                                                      | 70                           | 1,364                  | 10                           | 192                    | 51                           | -69                    | 35                           | -151                   | 48                           | -590                   | 43                           | 121                    | 76       |      |
| 77                                                                                                      | 70                           | 1,294                  | 88                           | 104                    | 80                           | -149                   | 83                           | -234                   | 50                           | -640                   | 74                           | 47                     | 77       |      |
| 78                                                                                                      | 142                          | 1,152                  | 114                          | -10                    | 140                          | -289                   | 149                          | -383                   | 108                          | -748                   | 131                          | -84                    | 78       |      |
| 79                                                                                                      | 52                           | 1,100                  | 7                            | -3                     | 45                           | -334                   | 59                           | -442                   | 39                           | -787                   | 38                           | -122                   | 79       |      |
| 80                                                                                                      | 231                          | 1,331                  | 305                          | 302                    | 235                          | -99                    | 220                          | -222                   | 218                          | -569                   | 241                          | 119                    | 80       |      |
| 81                                                                                                      | 91                           | 1,240                  | 61                           | 241                    | 99                           | -198                   | 106                          | -328                   | 121                          | -690                   | 96                           | 23                     | 81       |      |
| 82                                                                                                      | 95                           | 1,335                  | 93                           | 334                    | 57                           | -241                   | 48                           | -280                   | 21                           | -669                   | 62                           | 85                     | 82       |      |
| 83                                                                                                      | 42                           | 1,203                  | 67                           | 267                    | 90                           | -131                   | 109                          | -389                   | 132                          | -801                   | 88                           | -3                     | 83       |      |
| 84                                                                                                      | 82                           | 1,375                  | 51                           | 318                    | 52                           | -179                   | 18                           | -371                   | 7                            | -808                   | 39                           | 36                     | 84       |      |
| 85                                                                                                      | 17                           | 1,392                  | 0                            | 318                    | 25                           | -154                   | 6                            | -377                   | 30                           | -838                   | 1                            | 37                     | 85       |      |
| TOTALS, AGES 15 TO 85, BOTH INCLUSIVE.                                                                  |                              |                        |                              |                        |                              |                        |                              |                        |                              |                        |                              |                        |          |      |
| Positive                                                                                                | 4,071                        |                        | 3,173                        |                        | 2,950                        |                        | 2,845                        |                        | 2,683                        |                        | 2,956                        |                        | Positive |      |
| Negative                                                                                                | 2,679                        |                        | 2,855                        |                        | 3,104                        |                        | 3,222                        |                        | 3,521                        |                        | 2,919                        |                        | Negative |      |
| Net                                                                                                     | +1,392                       |                        | -318                         |                        | -154                         |                        | -377                         |                        | -838                         |                        | +37                          |                        | Net      |      |
| Absolute                                                                                                | 6,750                        |                        | 6,028                        |                        | 6,054                        |                        | 6,067                        |                        | 6,204                        |                        | 5,875                        |                        | Absolute |      |
| TOTALS, AGES 28 TO 77, BOTH INCLUSIVE.                                                                  |                              |                        |                              |                        |                              |                        |                              |                        |                              |                        |                              |                        |          |      |
| Positive                                                                                                | 3,331                        |                        | 2,471                        |                        | 2,359                        |                        | 2,236                        |                        | 2,132                        |                        | 2,377                        |                        | Positive |      |
| Negative                                                                                                | 2,082                        |                        | 2,387                        |                        | 2,479                        |                        | 2,517                        |                        | 2,796                        |                        | 2,352                        |                        | Negative |      |
| Net                                                                                                     | +1,249                       |                        | +84                          |                        | -120                         |                        | -281                         |                        | -664                         |                        | +25                          |                        | Net      |      |
| Absolute                                                                                                | 5,413                        |                        | 4,858                        |                        | 4,838                        |                        | 4,753                        |                        | 4,928                        |                        | 4,729                        |                        | Absolute |      |

Another criterion which should be given careful consideration is that which requires the sum of the weighted squared deviations of the graduated values from the observed values to be a minimum. Although there are systematic errors, as opposed to accidental errors, in the population and mortality statistics, it is also true that they compensate in a remarkable degree in the calculation of certain mortality functions. The systematic exaggerations in population returns are almost paralleled in the mortality statistics for even ages and ages which are multiples of 5, and a graph of the observed rate of mortality,  ${}_oq_x$ , shows that the systematic errors are almost eliminated.

It may therefore be assumed that the weight of the squared deviation  $(q_x - {}_oq_x)^2$  is approximately equal to  $w_x = n/p_x q_x$ , where  $n$ , the number of observations, may be taken equal to the graduated population,  $P_x$ , to avoid the systematic errors in the enumerated population. For the object in hand only relative weights, or proportional populations, are required, and by employing the formula

$$\frac{P_x}{p_x q_x} (q_x - {}_oq_x)^2$$

a test is obtained on the hypothesis that systematic errors have been removed from the enumerated population and the observed rate of mortality.

TABLE 126.—WEIGHTED SQUARED DEVIATIONS OF GRADUATED RATES OF MORTALITY FROM OBSERVED RATES OF MORTALITY IN TABLE 122.

$$\frac{10^3 P_x}{p_x q_x} (q_x - {}_oq_x)^2$$

| AGE. | AGE GROUP OF POPULATION AND MORTALITY STATISTICS TO WHICH OSCULATORY INTERPOLATION FORMULA WAS APPLIED. |       |        |        |        | Average group. | AGE.                                | AGE GROUP OF POPULATION AND MORTALITY STATISTICS TO WHICH OSCULATORY INTERPOLATION FORMULA WAS APPLIED. |         |         |         |         | Average group. |
|------|---------------------------------------------------------------------------------------------------------|-------|--------|--------|--------|----------------|-------------------------------------|---------------------------------------------------------------------------------------------------------|---------|---------|---------|---------|----------------|
|      | 1-5                                                                                                     | 2-6   | 3-7    | 4-8    | 5-9    |                |                                     | 1-5                                                                                                     | 2-6     | 3-7     | 4-8     | 5-9     |                |
| 15   | 1,057                                                                                                   | 165   | 95     | 806    | 1,710  | 703            | 55                                  | 114                                                                                                     | 32      | 291     | 60      | 558     | 4              |
| 16   | 3,028                                                                                                   | 1,444 | 851    | 1,450  | 3,474  | 1,938          | 56                                  | 76                                                                                                      | 3       | 649     | 61      | 48      | 54             |
| 17   | 319                                                                                                     | 1,035 | 2,252  | 2,367  | 608    | 1,174          | 57                                  | 2,120                                                                                                   | 1,475   | 727     | 929     | 1,377   | 1,283          |
| 18   | 68                                                                                                      | 303   | 98     | 481    | 59     | 6              | 58                                  | 1                                                                                                       | 414     | 285     | 444     | 492     | 265            |
| 19   | 730                                                                                                     | 5     | 240    | 1,567  | 1,904  | 600            | 59                                  | 44                                                                                                      | 764     | 79      | 542     | 618     | 331            |
| 20   | 725                                                                                                     | 229   | 343    | 9      | 343    | 1              | 60                                  | 2,933                                                                                                   | 4,074   | 1,478   | 3,553   | 3,707   | 3,066          |
| 21   | 283                                                                                                     | 35    | 123    | 197    | 92     | 2              | 61                                  | 11,728                                                                                                  | 12,658  | 19,055  | 13,505  | 13,275  | 13,936         |
| 22   | 191                                                                                                     | 370   | 48     | 91     | 32     | 52             | 62                                  | 2,374                                                                                                   | 587     | 243     | 596     | 593     | 754            |
| 23   | 1                                                                                                       | 253   | 23     | 102    | 25     | 1              | 63                                  | 622                                                                                                     | 4,827   | 4,040   | 4,161   | 4,512   | 3,360          |
| 24   | 718                                                                                                     | 59    | 194    | 863    | 721    | 441            | 64                                  | 1,008                                                                                                   | 148     | 49      | 26      | 42      | 9              |
| 25   | 3                                                                                                       | 108   | 131    | 0      | 4      | 12             | 65                                  | 5,028                                                                                                   | 1,768   | 4,285   | 1,959   | 1,978   | 2,881          |
| 26   | 1,314                                                                                                   | 1,341 | 907    | 1,137  | 1,254  | 1,182          | 66                                  | 278                                                                                                     | 16      | 526     | 1       | 9       | 63             |
| 27   | 1,863                                                                                                   | 746   | 1,095  | 1,370  | 1,337  | 1,259          | 67                                  | 6,687                                                                                                   | 5,289   | 3,985   | 6,537   | 7,620   | 5,951          |
| 28   | 1,249                                                                                                   | 203   | 403    | 502    | 568    | 536            | 68                                  | 170                                                                                                     | 90      | 71      | 11      | 36      | 0              |
| 29   | 142                                                                                                     | 722   | 273    | 267    | 353    | 329            | 69                                  | 84                                                                                                      | 150     | 10      | 21      | 16      | 0              |
| 30   | 1,761                                                                                                   | 2,126 | 1,007  | 850    | 1,203  | 1,353          | 70                                  | 10,781                                                                                                  | 12,259  | 7,754   | 10,661  | 9,149   | 10,007         |
| 31   | 3,698                                                                                                   | 4,427 | 6,659  | 7,027  | 6,043  | 5,647          | 71                                  | 12,600                                                                                                  | 14,469  | 22,459  | 17,138  | 19,752  | 17,106         |
| 32   | 1,936                                                                                                   | 640   | 301    | 139    | 64     | 456            | 72                                  | 899                                                                                                     | 23      | 186     | 12      | 128     | 2              |
| 33   | 794                                                                                                     | 1     | 6      | 84     | 227    | 0              | 73                                  | 71                                                                                                      | 2,449   | 3,478   | 3,137   | 3,924   | 2,223          |
| 34   | 1,507                                                                                                   | 188   | 502    | 108    | 20     | 321            | 74                                  | 4,545                                                                                                   | 574     | 1,133   | 773     | 536     | 1,315          |
| 35   | 500                                                                                                     | 1,350 | 323    | 1,032  | 1,488  | 873            | 75                                  | 2,141                                                                                                   | 274     | 993     | 525     | 383     | 746            |
| 36   | 338                                                                                                     | 191   | 920    | 532    | 523    | 470            | 76                                  | 618                                                                                                     | 15      | 333     | 165     | 304     | 238            |
| 37   | 1,932                                                                                                   | 1,236 | 812    | 908    | 557    | 1,045          | 77                                  | 840                                                                                                     | 1,346   | 1,098   | 1,209   | 427     | 960            |
| 38   | 185                                                                                                     | 997   | 747    | 815    | 1,233  | 742            | 78                                  | 3,186                                                                                                   | 1,957   | 3,070   | 3,565   | 1,839   | 2,676          |
| 39   | 676                                                                                                     | 37    | 435    | 176    | 171    | 252            | 79                                  | 491                                                                                                     | 9       | 349     | 624     | 273     | 254            |
| 40   | 2,000                                                                                                   | 2,760 | 1,230  | 2,069  | 1,639  | 1,900          | 80                                  | 6,717                                                                                                   | 10,663  | 6,814   | 6,067   | 6,127   | 7,179          |
| 41   | 8,068                                                                                                   | 9,246 | 13,692 | 10,322 | 12,807 | 10,737         | 81                                  | 2,015                                                                                                   | 880     | 2,380   | 2,749   | 3,768   | 2,252          |
| 42   | 2,003                                                                                                   | 611   | 267    | 506    | 66     | 548            | 82                                  | 1,604                                                                                                   | 1,542   | 591     | 417     | 89      | 713            |
| 43   | 410                                                                                                     | 219   | 198    | 188    | 680    | 95             | 83                                  | 368                                                                                                     | 1,012   | 1,880   | 2,767   | 4,185   | 1,788          |
| 44   | 2,448                                                                                                   | 285   | 818    | 400    | 186    | 658            | 84                                  | 1,308                                                                                                   | 564     | 559     | 70      | 10      | 317            |
| 45   | 219                                                                                                     | 1,316 | 181    | 1,013  | 1,217  | 695            | 85                                  | 67                                                                                                      | 0       | 154     | 10      | 232     | 0              |
| 46   | 446                                                                                                     | 173   | 1,109  | 335    | 391    | 445            | TOTALS, AGES 15 TO 85 AND 28 TO 77. |                                                                                                         |         |         |         |         |                |
| 47   | 2,231                                                                                                   | 1,567 | 677    | 1,051  | 796    | 1,205          | AGES.                               |                                                                                                         |         |         |         |         |                |
| 48   | 117                                                                                                     | 657   | 879    | 1,014  | 1,405  | 732            | 15-85                               | 130,841                                                                                                 | 126,978 | 142,273 | 135,737 | 141,954 | 128,764        |
| 49   | 758                                                                                                     | 236   | 650    | 114    | 36     | 294            | 28-77                               | 110,355                                                                                                 | 104,258 | 120,076 | 109,028 | 116,888 | 105,966        |
| 50   | 3,665                                                                                                   | 3,019 | 1,783  | 3,598  | 4,226  | 3,367          |                                     |                                                                                                         |         |         |         |         |                |
| 51   | 4,880                                                                                                   | 6,048 | 11,743 | 8,432  | 7,811  | 7,636          |                                     |                                                                                                         |         |         |         |         |                |
| 52   | 13                                                                                                      | 595   | 1,048  | 45     | 10     | 222            |                                     |                                                                                                         |         |         |         |         |                |
| 53   | 947                                                                                                     | 28    | 176    | 1,456  | 2,467  | 804            |                                     |                                                                                                         |         |         |         |         |                |
| 54   | 1,530                                                                                                   | 476   | 20     | 19     | 298    | 30             |                                     |                                                                                                         |         |         |         |         |                |

This formula has been applied to the five quinquennial groups and the average group in Table 122, and the results are set forth in Table 126. The test indicates that the minimum sum of weighted squared deviations of the rate of mortality is associated with the 2-6 group and that the sum is even lower than that for the average group, which is next in order. Among the quinquennial groups the next in order for both the age intervals 15-85 and 28-77 is the 4-8 group. The showing is least favorable for the 3-7 group, which has multiples of 5 in the center. The group usually employed in presenting vital and population statistics, namely, the 5-9 group, also shows to disadvantage under this test.

#### RATIO TEST FOR CONCENTRATION IN AGE GROUPS.

130. Another very different method<sup>1</sup> of considering this problem is to examine the ratio of the number in any quinquennial age group to the number which is the mean of the two adjoining quinquennial age groups. If the populations or deaths were not artificially exaggerated at certain ages, this ratio should vary with the age with a certain degree of regularity; if it does not, the group which shows the smallest average difference between these ratios for groups

<sup>1</sup> The Comparative Accuracy of Different Forms of Quinquennial Age Groups. Allyn A. Young. Quarterly Publication of the American Statistical Association, vol. 7, p. 27.

including ages ending in 0 and ending in 5 may be regarded as approaching more nearly the group in the actual undisturbed population and death groups.

In Table 127 populations summed in all five quinquennial age groups are arranged so that sums including populations for the same age ending in 0 or ending in 5 are in the same line with that age, which is shown under the heading "Age common to all five groups,  $x$ ." Thus the sums in the first line are made up of populations aged 11 to 19 and each contains the population aged 15, group 1-5 containing population aged 11 to 15, group 2-6 containing population aged 12 to 16, and so on to group 5-9 containing population aged 15 to 19. In the second line the population ranges from 16 to 24 years of age, and the population aged 20 is included in each of the five sums.

Then the ratio of the number in each quinquennial age group including an age ending in 0 to the sum of those immediately above and below it, each containing an age ending in 5, is designated by  ${}_0M_x$ , while the ratio of the number in each age group including an age ending in 5 to the sum of those immediately above and below it, each including an age ending in 0, is designated by  ${}_5M_x$ , the  $x$  designating the age in the numerator. The ratios are calculated for ages 20 to 95 for population of males in the state of New York, estimated as of July 1, 1910.

TABLE 127.—QUINQUENNIAL AGE GROUPS TESTED BY COMPARING RATIOS OF POPULATION.

Ratio of number in age group including age ending in 0 to sum of those immediately above and below it, each including an age ending in 5, is designated by  ${}_0M_x$ .  
Ratio of number in age group including age ending in 5 to sum of those immediately above and below it, each including an age ending in 0, designated by  ${}_5M_x$ .  
Population of males in the state of New York, estimated as of July 1, 1910.

| Total age interval used in the five groups. | Age common to all five groups. | AGE GROUP IN WHICH POPULATION IS SUMMED. |                         |                        |                         |                        |                         |                        |                         |                    |                         |
|---------------------------------------------|--------------------------------|------------------------------------------|-------------------------|------------------------|-------------------------|------------------------|-------------------------|------------------------|-------------------------|--------------------|-------------------------|
|                                             |                                | 1-5                                      |                         | 2-6                    |                         | 3-7                    |                         | 4-8                    |                         | 5-9                |                         |
|                                             |                                | $\sum_{z-4}^x P_x$                       | ${}_0M_x$ and ${}_5M_x$ | $\sum_{z-3}^{x+1} P_x$ | ${}_0M_x$ and ${}_5M_x$ | $\sum_{z-2}^{x+2} P_x$ | ${}_0M_x$ and ${}_5M_x$ | $\sum_{z-1}^{x+3} P_x$ | ${}_0M_x$ and ${}_5M_x$ | $\sum_z^{x+4} P_x$ | ${}_0M_x$ and ${}_5M_x$ |
|                                             |                                | $x-4$ to $x+4$                           | $x$                     |                        |                         |                        |                         |                        |                         |                    |                         |
|                                             |                                |                                          | Per cent.               |                        | Per cent.               |                        | Per cent.               |                        | Per cent.               |                    | Per cent.               |
| 11-19                                       | 15                             | 389,591                                  |                         | 397,983                |                         | 396,317                |                         | 405,619                |                         | 411,802            |                         |
| 16-24                                       | 20                             | 426,548                                  | 49.4                    | 435,105                | 49.9                    | 448,284                | 52.0                    | 453,339                | 51.7                    | 463,552            | 53.6                    |
| 21-29                                       | 25                             | 473,101                                  | 53.2                    | 474,131                | 54.6                    | 466,091                | 53.1                    | 470,580                | 54.8                    | 453,622            | 52.6                    |
| 26-34                                       | 30                             | 463,086                                  | 54.2                    | 433,989                | 50.3                    | 430,034                | 51.4                    | 404,730                | 47.7                    | 399,449            | 48.6                    |
| 31-39                                       | 35                             | 381,835                                  | 45.8                    | 389,261                | 49.9                    | 371,215                | 47.6                    | 377,846                | 51.8                    | 367,773            | 51.6                    |
| 36-44                                       | 40                             | 370,663                                  | 55.3                    | 346,795                | 51.2                    | 350,272                | 55.0                    | 324,887                | 50.5                    | 312,601            | 49.7                    |
| 41-49                                       | 45                             | 287,923                                  | 45.8                    | 288,197                | 48.7                    | 265,727                | 44.7                    | 265,517                | 48.2                    | 260,805            | 49.3                    |
| 46-54                                       | 50                             | 238,472                                  | 54.3                    | 245,147                | 51.7                    | 243,969                | 56.2                    | 226,307                | 53.1                    | 216,306            | 52.8                    |
| 51-59                                       | 55                             | 188,481                                  | 46.5                    | 186,243                | 49.3                    | 168,371                | 45.1                    | 161,059                | 46.4                    | 149,105            | 44.9                    |
| 56-64                                       | 60                             | 146,747                                  | 50.0                    | 132,977                | 46.0                    | 129,391                | 49.2                    | 121,076                | 48.2                    | 115,823            | 49.5                    |
| 61-69                                       | 65                             | 103,042                                  | 40.8                    | 102,796                | 50.4                    | 94,867                 | 48.2                    | 90,344                 | 49.5                    | 84,802             | 49.2                    |
| 66-74                                       | 70                             | 77,581                                   | 50.5                    | 71,062                 | 47.6                    | 67,481                 | 49.7                    | 61,511                 | 48.4                    | 56,690             | 48.4                    |
| 71-79                                       | 75                             | 48,713                                   | 46.2                    | 46,607                 | 49.3                    | 40,891                 | 46.3                    | 36,675                 | 46.2                    | 32,248             | 44.6                    |
| 76-84                                       | 80                             | 27,797                                   | 45.4                    | 23,464                 | 40.9                    | 20,828                 | 41.9                    | 17,807                 | 40.7                    | 15,543             | 41.0                    |
| 81-89                                       | 85                             | 12,461                                   | 38.5                    | 10,832                 | 40.2                    | 8,829                  | 37.7                    | 7,203                  | 36.2                    | 5,680              | 33.4                    |
| 86-94                                       | 90                             | 4,534                                    | 33.8                    | 3,466                  | 30.1                    | 2,611                  | 28.0                    | 2,024                  | 26.9                    | 1,451              | 24.6                    |
| 91-99                                       | 95                             | 939                                      | 20.1                    | 655                    | 19.2                    | 495                    | 18.6                    | 325                    | 15.7                    | 222                | 14.9                    |
| 96-104                                      | 100                            | 149                                      |                         | 103                    |                         | 68                     |                         | 49                     |                         | 34                 |                         |

TABLE 128.—QUINQUENNIAL AGE GROUPS TESTED BY COMPARING DIFFERENCES OF AVERAGED RATIOS FOR POPULATIONS AND FOR DEATHS.

| A. VALUES OF ${}_0M_x$ AND ${}_1M_x$ FROM TABLE 127, COPIED IN SEPARATE COLUMNS. |                                          |           |           |           |           |           |           |           |           |           |
|----------------------------------------------------------------------------------|------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| AGE.                                                                             | AGE GROUP IN WHICH POPULATION IS SUMMED. |           |           |           |           |           |           |           |           |           |
|                                                                                  | 1-5                                      |           | 2-6       |           | 3-7       |           | 4-8       |           | 5-9       |           |
| $x$                                                                              | ${}_0M_x$                                | ${}_1M_x$ | ${}_0M_x$ | ${}_1M_x$ | ${}_0M_x$ | ${}_1M_x$ | ${}_0M_x$ | ${}_1M_x$ | ${}_0M_x$ | ${}_1M_x$ |
| 20                                                                               | 49.4                                     |           | 49.9      |           | 52.0      |           | 51.7      |           | 53.6      |           |
| 25                                                                               |                                          | 53.2      |           | 54.6      |           | 53.1      |           | 54.8      |           | 52.6      |
| 30                                                                               | 54.2                                     |           | 50.3      |           | 51.4      |           | 47.7      |           | 48.6      |           |
| 35                                                                               |                                          | 45.8      |           | 49.9      |           | 47.6      |           | 51.8      |           | 51.6      |
| 40                                                                               | 55.3                                     |           | 51.2      |           | 55.0      |           | 50.5      |           | 49.7      |           |
| 45                                                                               |                                          | 45.8      |           | 48.7      |           | 44.7      |           | 48.2      |           | 49.3      |
| 50                                                                               | 54.3                                     |           | 51.7      |           | 56.2      |           | 53.1      |           | 52.8      |           |
| 55                                                                               |                                          | 46.5      |           | 49.3      |           | 45.1      |           | 46.4      |           | 44.9      |
| 60                                                                               | 50.0                                     |           | 46.0      |           | 49.2      |           | 48.2      |           | 49.5      |           |
| 65                                                                               |                                          | 46.8      |           | 50.4      |           | 48.2      |           | 49.5      |           | 49.2      |
| 70                                                                               | 50.5                                     |           | 47.6      |           | 49.7      |           | 48.4      |           | 48.4      |           |
| 75                                                                               |                                          | 46.2      |           | 49.3      |           | 46.3      |           | 46.2      |           | 44.6      |
| 80                                                                               | 45.4                                     |           | 40.9      |           | 41.9      |           | 40.7      |           | 41.0      |           |

| B. VALUES OF ${}_0\bar{M}_i$ AND ${}_1\bar{M}_i$ , THE AVERAGE OF ${}_0M_x$ AND ${}_1M_x$ , RESPECTIVELY, FOR CERTAIN AGE INTERVALS, $i$ . |      |      |      |      |      |      |      |      |      |      |
|--------------------------------------------------------------------------------------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|
| 20 to 65                                                                                                                                   | 52.6 | 47.6 | 49.8 | 50.6 | 52.8 | 47.7 | 50.2 | 50.1 | 50.8 | 49.5 |
| 25 to 80                                                                                                                                   | 51.6 | 47.4 | 48.0 | 50.4 | 50.6 | 47.5 | 48.1 | 49.5 | 48.3 | 48.7 |
| 30 to 75                                                                                                                                   | 52.9 | 46.2 | 49.5 | 49.5 | 52.3 | 46.4 | 49.6 | 48.4 | 49.8 | 47.9 |

| C. VALUES OF ${}_0\bar{M}_i - {}_1\bar{M}_i$ FOR CERTAIN POPULATIONS AND DEATHS FOR THE ABOVE AGE INTERVALS. |                                                        |      |     |      |      |                                 |      |     |      |      |
|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|------|-----|------|------|---------------------------------|------|-----|------|------|
| AREA AND SEX OF POPULATIONS AND DEATHS.                                                                      | AGE GROUP IN WHICH POPULATIONS AND DEATHS WERE SUMMED. |      |     |      |      |                                 |      |     |      |      |
|                                                                                                              | 1-5                                                    | 2-6  | 3-7 | 4-8  | 5-9  | 1-5                             | 2-6  | 3-7 | 4-8  | 5-9  |
|                                                                                                              | Estimated population July 1, 1910.                     |      |     |      |      | Deaths in 1909, 1910, and 1911. |      |     |      |      |
|                                                                                                              | ${}_0\bar{M}_{20-65} - {}_1\bar{M}_{20-65}$            |      |     |      |      |                                 |      |     |      |      |
| New York, Males.....                                                                                         | 5.0                                                    | -0.8 | 5.1 | 0.1  | 1.3  | 2.1                             | 0.3  | 3.9 | 0.3  | 0.9  |
| *Original registration states, Males.....                                                                    | 4.4                                                    | -0.5 | 4.8 | 0.5  | 1.1  | 1.5                             | 0.1  | 4.0 | 0.8  | 1.1  |
| Females.....                                                                                                 | 5.9                                                    | +0.1 | 5.4 | 0.2  | 1.5  | 2.4                             | -0.4 | 3.0 | -0.6 | 0.0  |
| Average.....                                                                                                 | 5.1                                                    | -0.4 | 5.1 | 0.3  | 1.3  | 2.0                             | 0    | 3.6 | 0.2  | 0.7  |
|                                                                                                              | ${}_0\bar{M}_{25-80} - {}_1\bar{M}_{25-80}$            |      |     |      |      |                                 |      |     |      |      |
| New York, Males.....                                                                                         | 4.2                                                    | -2.5 | 3.1 | -1.4 | -0.4 | 1.7                             | -1.4 | 2.1 | -0.9 | -0.1 |
| *Original registration states, Males.....                                                                    | 3.6                                                    | -2.3 | 2.5 | -1.1 | -0.7 | 1.3                             | -1.5 | 1.6 | -0.9 | -0.3 |
| Females.....                                                                                                 | 4.9                                                    | -1.9 | 3.0 | -1.7 | -0.5 | 2.9                             | -1.0 | 1.9 | -1.4 | -0.8 |
| Average.....                                                                                                 | 4.2                                                    | -2.2 | 2.9 | -1.4 | -0.5 | 2.0                             | -1.3 | 1.9 | -1.1 | -0.4 |
|                                                                                                              | ${}_0\bar{M}_{30-75} - {}_1\bar{M}_{30-75}$            |      |     |      |      |                                 |      |     |      |      |
| New York, Males.....                                                                                         | 6.7                                                    | -0.1 | 5.9 | 1.2  | 1.9  | 2.4                             | -1.0 | 2.5 | -0.5 | -0.2 |
| *Original registration states, Males.....                                                                    | 5.6                                                    | -0.4 | 5.2 | 1.3  | 1.5  | 1.7                             | -1.5 | 1.8 | -1.0 | -0.6 |
| Females.....                                                                                                 | 6.8                                                    | +0.1 | 5.4 | 0.2  | 1.2  | 3.6                             | -0.3 | 2.6 | -1.4 | -1.2 |
| Average.....                                                                                                 | 6.4                                                    | -0.1 | 5.5 | 0.9  | 1.5  | 2.6                             | -0.9 | 2.3 | -1.0 | -0.7 |

| D. AVERAGE OF THE AVERAGES IN C. |     |      |     |      |     |     |      |     |      |      |
|----------------------------------|-----|------|-----|------|-----|-----|------|-----|------|------|
|                                  | 5.2 | -0.9 | 4.5 | -0.1 | 0.8 | 2.2 | -0.7 | 2.6 | -0.6 | -0.1 |

\* Original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

Table 128 shows the  ${}_0M_x$  and  ${}_5M_x$  in Table 127 between ages 20 and 80 entered in separate columns; the average,  ${}_0\bar{M}_t$  and  ${}_5\bar{M}_t$ , of the values in each column, where  $t$  denotes age intervals 20-65, 25-80, and 30-75 years; the differences of the averages,

$$\begin{aligned} &{}_0\bar{M}_{20-65} - {}_5\bar{M}_{20-65}, \\ &{}_0\bar{M}_{25-80} - {}_5\bar{M}_{25-80}, \\ &\text{and } {}_0\bar{M}_{30-75} - {}_5\bar{M}_{30-75}; \end{aligned}$$

and the average of these averages for populations, estimated as of July 1, 1910, of males in the state of New York, of males and of females in the original registration states, and for deaths during the period 1909-1911 among these three populations.

This method favors the groups 2-6, 4-8, and 5-9.

**SELECTION OF QUINQUENNIAL AGE GROUP FOR OSCULATORY INTERPOLATION IN CONSTRUCTION OF UNITED STATES LIFE TABLES.**

131. King<sup>1</sup> made an exhaustive study of quinquennial age groups and concluded that the 4-8 group would furnish graduated populations most faithfully reflecting the true distributions of populations with respect to age, and he based his construction of the English Life Tables No. 8 on the 4-8 group.

Taking into account the preceding results and references, it is not difficult to eliminate groups 1-5 and 5-9. However, the decision as to groups 2-6, 3-7, and 4-8 still remains a problem. As between these three groups it will be observed that groups 2-6 and 3-7 contain both the ages ending in the digits 0 and 8 in the same quinquennial age group, while the adjacent five-year groups contain the ages ending in the digit 5. This tends to exaggerate unduly alternate quinquennial age groups in these sets. With the group 4-8, however, the ages ending in the digits 5 and 8 are in the same quinquennial group and the ages ending in the digit 0 are in the adjacent five-year groups. Since the exaggeration for ages which are multiples of 10 is undoubtedly greater than for ages which end in the digit 5, the group 4-8 would seem to furnish a better balanced grouping than the group 2-6 or 3-7.

In the construction of the United States Life Tables the 4-8 group was employed where populations and deaths by single years were available; otherwise the 5-9 group was employed, since it was the only one available.

**GRAPHS FOR AGE INTERVAL UNDER 1 YEAR AND AGE INTERVAL UNDER 1 MONTH.**

132. When the figures in the several columns of the life tables are plotted for monthly intervals under 1 year and for annual intervals beginning with age 1, it is only necessary in most cases to connect the points by drawing a smooth curve through them to obtain the required graph. There are some exceptions

to this rule, notably for the number of survivors and for monthly rates of mortality for days and weeks of age under 1 month and the annual rates of mortality for each month of age under 1 year. The variation is so great in these intervals that unless the points are simply connected by a straight line some approximate method must be devised to draw the curves. In the case of Diagram D in the graphs of expectation of life and measure of vitality straight lines were drawn in the first monthly interval, but for Diagram D in the graphs of number of survivors and monthly rate of mortality the straight line in the first month was replaced in each case by a curve, and for Diagram A in the annual rate of mortality the straight line for the first year was also replaced by a curve.

To this end it was necessary to determine a few points on these curves by computing approximate monthly rates of mortality beginning with the first few days of life and each of the first few weeks of life and also the approximate annual rates of mortality by months under 1 year of age. The mortality statistics given in Table 129 were employed, after being adjusted graphically so as to leave the total number of deaths unchanged.

**TABLE 129.—ADDITIONAL MORTALITY STATISTICS USED IN DRAWING GRAPHS.**

| AGE.          | ORIGINAL<br>REGISTRATION<br>STATES,<br>1910-1911. |                | BOSTON, CHICAGO,<br>NEW YORK CITY,<br>AND<br>PHILADELPHIA,<br>1910-1911. |                | AGE.           | REGISTRATION<br>AREA OF 1910<br>DURING 1910. |                |  |  |
|---------------|---------------------------------------------------|----------------|--------------------------------------------------------------------------|----------------|----------------|----------------------------------------------|----------------|--|--|
|               | Original.                                         | Ad-<br>justed. | Original.                                                                | Ad-<br>justed. |                | Original.                                    | Ad-<br>justed. |  |  |
|               |                                                   |                |                                                                          |                |                |                                              |                |  |  |
| MALES.        |                                                   |                |                                                                          |                | BOTH SEXES.    |                                              |                |  |  |
| <i>Days.</i>  |                                                   |                |                                                                          |                | <i>Months.</i> |                                              |                |  |  |
| 0             | 8,691                                             | 8,771          | 2,664                                                                    | 2,829          | 0              | 58,089                                       | 58,089         |  |  |
| 1             | 4,125                                             | 4,025          | 1,572                                                                    | 1,332          | 1              | 15,223                                       | 15,223         |  |  |
| 2             | 2,390                                             | 2,550          | 910                                                                      | 895            | 2              | 12,923                                       | 12,923         |  |  |
| 3-6           | 4,776                                             | 4,286          | 1,882                                                                    | 1,912          | 3              | 11,358                                       | 11,398         |  |  |
| <i>Weeks.</i> |                                                   |                |                                                                          |                | 4              | 9,828                                        | 9,913          |  |  |
| 1             | 4,194                                             | 4,784          | 1,798                                                                    | 1,978          | 5              | 8,618                                        | 8,753          |  |  |
| 2             | 3,500                                             | 3,170          | 1,568                                                                    | 1,508          | 6              | 8,198                                        | 7,818          |  |  |
| 3             | 2,785                                             | 2,875          | 1,232                                                                    | 1,202          | 7              | 6,969                                        | 7,129          |  |  |
| <i>Month.</i> |                                                   |                |                                                                          |                | 8              | 6,604                                        | 6,534          |  |  |
| 1             | 30,461                                            | 30,461         | 11,656                                                                   | 11,656         | 9              | 5,955                                        | 5,980          |  |  |
| FEMALES.      |                                                   |                |                                                                          |                | 10             | 5,273                                        | 5,433          |  |  |
| <i>Days.</i>  |                                                   |                |                                                                          |                | 11             | 5,335                                        | 5,060          |  |  |
| 0             | 6,266                                             | 6,566          | 2,049                                                                    | 2,169          | 12             | 5,294                                        | 4,564          |  |  |
| 1             | 3,085                                             | 2,585          | 1,214                                                                    | 1,009          | 13             | 3,638                                        | 4,138          |  |  |
| 2             | 1,675                                             | 1,895          | 690                                                                      | 655            | 14             | 3,448                                        | 3,728          |  |  |
| 3-6           | 3,607                                             | 3,287          | 1,447                                                                    | 1,457          | 15             | 3,147                                        | 3,327          |  |  |
| <i>Weeks.</i> |                                                   |                |                                                                          |                | 16             | 2,785                                        | 2,985          |  |  |
| 1             | 3,140                                             | 3,720          | 1,350                                                                    | 1,470          | 17             | 2,505                                        | 2,680          |  |  |
| 2             | 2,775                                             | 2,395          | 1,161                                                                    | 1,086          | 18             | 3,083                                        | 2,463          |  |  |
| 3             | 2,215                                             | 2,315          | 1,016                                                                    | 1,031          | 19             | 2,098                                        | 2,183          |  |  |
| <i>Month.</i> |                                                   |                |                                                                          |                | 20             | 2,043                                        | 1,988          |  |  |
| 1             | 22,763                                            | 22,763         | 8,927                                                                    | 8,927          | 21             | 1,683                                        | 1,783          |  |  |
| Under 2 years |                                                   |                |                                                                          |                | 22             | 1,711                                        | 1,706          |  |  |
|               |                                                   |                |                                                                          |                | 23             | 1,645                                        | 1,625          |  |  |
|               |                                                   |                |                                                                          |                | Under 2 years  | 187,453                                      | 187,453        |  |  |

<sup>1</sup> Report on the Graduation of Ages. George King. Census of England and Wales. 1911, vol. 7, p. xxxix.



The number of deaths under 1 month as given in the life table was divided approximately into deaths during each of the first three days of life and during each of the first four weeks of life by assuming that they were proportional to the number of adjusted deaths in Table 129 for the same age intervals. In order to obtain the number of deaths for corresponding intervals during the second month of life, the number of deaths during the second month of life, as given by the life table, was divided by 4 to obtain the average number per week, and then this quotient was divided by 7 to determine the average number per day. Where the quotients were not whole numbers the remainders were taken up by increasing the deaths during each of the earlier periods by unity. From these values it was possible to obtain the approximate number of deaths during each of the months beginning with each of the first three days of life and with each of the first four weeks of life, respectively, and also to find the approximate number of survivors to each of these age intervals. From these numbers of deaths and survivors

approximate monthly rates of mortality were computed.

The adjusted numbers of deaths by months in the second year of life given in Table 129 were used to divide by proportion the deaths during the second year of life, as given by the life table, into deaths by months. From these numbers of deaths during each month in the second year of life and from the deaths by months under 1 year of age, as given by the life table, the approximate numbers of deaths were obtained for the years beginning with each month under 1 year of age, and these were employed, together with the table of survivors given in the life table, to compute the approximate annual rates of mortality for each month under 1 year of age.

The adjusted deaths for Boston, Chicago, New York City, and Philadelphia during the first three days, and the first four weeks of life in 1910 and 1911, were used in a similar manner in drawing the graphs for whites in cities of the original registration states in 1901 and 1910.



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## PART VII

DESCRIPTION OF CALCULATION OF LIFE TABLE FOR MALES IN THE STATE  
OF NEW YORK, 1910, INCLUDING PHOTOGRAPHS OF GRAPHS, DIAGRAMS,  
AND ADDING-MACHINE TAPES USED IN CONNECTION WITH NUMERICAL  
COMPUTATIONS.

TABULAR OUTLINE FOR CONSTRUCTION OF EACH LIFE TABLE.



## PART VII.—DESCRIPTION OF CALCULATION OF LIFE TABLE FOR MALES IN THE STATE OF NEW YORK, 1910, INCLUDING PHOTOGRAPHS OF GRAPHS, DIAGRAMS, AND ADDING-MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS.

### DESCRIPTIVE TEXT AND PHOTOGRAPHED TAPES.

133. The object of this part of the text is to give a detailed account of the actual processes of calculation used in the construction of a typical life table. There are many students and others interested in vital statistics who do not understand the mathematical theory and formulas developed in Part VI who would like to know how a life table is calculated. It is quite possible to present the work of calculation in such manner that one need not necessarily be an actuary to follow the steps. The method of procedure in this part is to divide the work into a number of distinct steps and to describe each one of these steps in detail in the text. The actual process of carrying out the work on the adding machine or otherwise is shown by means of photographs of graphs, diagrams, and adding-machine tapes used in connection with the numerical calculations. The number of the section in the text in which the process is described is assigned to the corresponding tape which appears in the photograph. These numbers are shown above and to the left of the tapes, graphs, or diagrams to which they are assigned in such large heavy figures that they can be readily detected. For example, 220, above and to the left of a tape on page 403, means that the description of this tape will be found in section 220, page 402. On the other hand, the text leads to the correct tape in the photograph by direct reference. For example, if the numerical process exhibited on tape 150 is referred to in the text, it is understood that the reader will turn to this particular tape, which can be found easily by its number. The pages of photographs contain a graph and several diagrams used in the process of constructing life tables; they are numbered consecutively with the tapes. For the convenience of the reader the description of these calculations is so distributed that the photographs of the tapes generally face the page on which their descriptions appear. The process of copying values, either from the tapes or from computing machines, in Table 56 on page 162, of course, has no tape, graph, or diagram connected with it. Sections 237-239 and 244-249 describe this work. See page 10 of the table of contents.

Numerous devices and short cuts to facilitate the work on the adding machine are explained in the text and illustrated on the tapes.

Particular attention is called to the methods of checking the work. The checks are designated by

small circles inclosing the same number and placed beside the results which check each other.

### SPECIAL METHODS USED IN CONSTRUCTION OF SOME LIFE TABLES.

134. It is shown in Part VIII that the original statistics upon which life tables are based are far from uniform—in fact, that they are presented in seven different types or forms. This means that it was not possible to apply one and the same process to construct every life table. In order to meet variations from the standard or typical form of construction illustrated by the life table for males in the state of New York, 1910, and described in this part, it was necessary to devise other methods. Where these methods are not obvious they have been described in this part, the description following that of the construction of the above-mentioned table.

For example, where the infant mortality curve did not join smoothly with the osculatory fifth difference curve it was necessary to effect a smooth junction, and the process used, as illustrated in the table for white females in cities of the original registration states, 1901, is described in this part.

The same remark applies to the junction of the osculatory fifth difference curve with the Wittstein old-age curve in the table for males in the state of New York, 1910.

In the calculation of the mean population for the 1901-1910 tables it was also necessary to employ methods not used in the other tables. The method of calculating the mean population is illustrated in this part by reproducing the work on the life table for white females in the original registration states, 1901-1910.

### EXTRA INFORMATION NEEDED FOR CONSTRUCTION OF EACH LIFE TABLE.

135. As stated above, on account of the variety of forms in which the original statistics are given, it was not possible to employ the same methods in computing the rates of mortality for every table. To supply the actuary with all the information necessary to reproduce the rates of mortality for any of the life tables, a tabular outline was prepared, showing for each table the different processes used and the ages and sources of the population or death statistics or rates of mortality to which these processes were applied. This outline, Table 135, is given on pages 416 to 419.

The C's in column 3 indicate that the *computed* number of births was used instead of the number of births *registered*, R. Column 4 shows the quinquennial age groups of the original data to which the osculatory formula was applied. Beginning with column 5, the words *original statistics* and the tape numbers corresponding to sections in the description of the calculation of various parts of the life table are given at the heads of the columns. These headings indicate the *sources* of the population or death statistics or rates of mortality for the *ages* named in the table, which are used for the purpose named in the main heading of the group of columns. Thus, whenever the smoothing process described in sections 250 to 263 was employed to effect smooth junctions at early ages, columns 5 to 10 show the ages and sources of the population, death statistics, and the rates of mortality to which this process was applied; columns 12 and 13 show the ages and sources of the rates of mortality upon which the Wittstein constants were based; columns 14 to 16 show the ages and sources of rates of mortality which were smoothed by Spencer's 21-term formula; and finally, columns 17 to 22 show the ages and sources of the rates of mortality upon which the life table was constructed.

#### ADJUSTMENT FOR DEATHS BY MONTHS UNDER 1 YEAR OF AGE.

136. When the reported deaths by months under 1 year of age are plotted as shown in the broken curve marked REPORTED DEATHS on Graph 136, page 371, they show an excess of deaths at ages 6 months and 9 months, and a corresponding decrease at ages 5 and 10 months. To smooth out this roughness, an equivalent curve, marked ADJUSTED DEATHS, was drawn graphically in such manner that the total of adjusted deaths was equal to the total of reported deaths.

Deaths during the first month of life were not plotted because they were out of proportion to those in the other months; also, those during the second month of life were entered but left unchanged.

In the table in the upper right-hand corner of Graph 136 are shown the reported deaths by months under 1 year of age; the adjusted values of these; the difference between the reported and adjusted number of deaths at each age; the per cent which this difference bears to the number of reported deaths; and in the last column to the right is shown the number of adjusted deaths at each month of age when the sum of the deaths under 1 year is reduced to 10,000.

#### DETERMINATION OF POPULATION USED IN CALCULATION OF NUMBER OF BIRTHS AND OF ANNUAL RATES OF MORTALITY UNDER 5 YEARS AND OF MONTHLY RATES OF MORTALITY UNDER 1 YEAR.

137. The population at each year of age was assumed to progress geometrically after July 1, 1900, according to the ratio determined from the population on this date and that on July 1, 1910. The

populations on both these July 1 dates were estimated arithmetically from the enumerated populations of April 15, 1910, and June 1, 1900. The ratio  $r$  is therefore expressed by means of the equation

$$r^{10} = \frac{1910\text{-July-1}P_x}{1900\text{-July-1}P_x} \quad (78)$$

and the population  $y$  years after July 1, 1900, by the equation

$$(1900\text{-July-1}) + y P_x = r^y 1900\text{-July-1}P_x.$$

The ages  $x$  are entered on the left of the tape, the values for  $1910\text{-July-1}P_x$  in the middle and those for  $1900\text{-July-1}P_x$  on the right. The 1910 values were copied from column 2 of Table 159, page 450, and the 1900 values from column 7 of Table 181, page 472. The adding machine was split between banks 16-17 and 8-9.

138. The characteristic of log 97,764, or 4, was entered in bank 9 and immediately to the right of it the mantissa, which was taken from Vega's seven place logarithm tables, so that the first bank was left vacant and was automatically filled with a zero. Beneath this is entered the complement of log 80,771, giving a subtotal .0829235, which is log  $r^{10}$ .

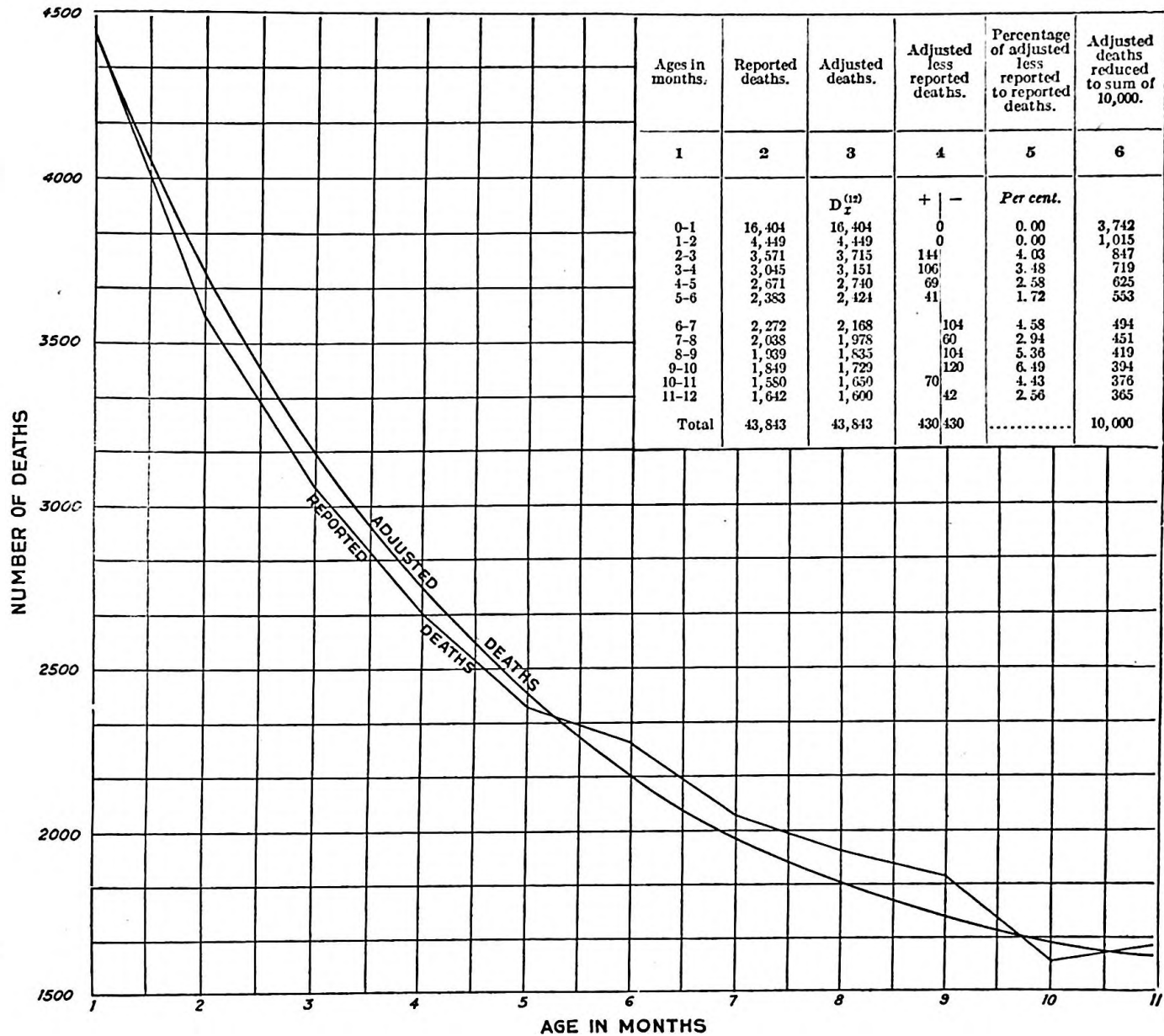
Throughout these calculations the process of subtracting by adding the complement of the number to be subtracted is used. In order to carry away the extra unit thus obtained on the left in the remainder, the complement is always preceded by 9's to the last bank on the left, or to the split on the left. Also, throughout these calculations the decimal point in a series of additions is often indicated by a vertical line between the two banks where the decimal point should occur. The vertical line is also used to cross out the extra units obtained in subtracting by adding complements, but the use to which the line is put can be readily distinguished.

If the decimal point is moved one place to the left, this log  $r^{10}$  becomes log  $r$ , or the logarithm of the yearly ratio of increase. This .00829235 was set up and repeated twice, making three times in all; then half of it was set up in unit's place and again in ten's place, thus adding the logarithm of the ratio of 8.5 years' increase; then log 80,771, whose complement was entered above, is added one space to the left to conform with the change of decimal point mentioned above.

This subtotal is log  $1908\text{-December-31}P_x$ , as indicated by the 1908 on the left side of the tape. The machine is split between banks 13 and 14. Then log  $r$  is added again, giving log  $1909\text{-December-31}P_x$  as subtotal, while the 1 added in bank 14 changes the date to 1909. This process was repeated until log  $1913\text{-December-31}P_x$  was obtained. Then this work was checked by setting up log  $1910\text{-July-1}P_x$  and adding to it log  $r$  repeated three times and then one-half log  $r$ , so that the total is log  $1913\text{-December-31}P_x$ , which agrees with that obtained above, as indicated by the mark ⊙.

GRAPH 136

NUMBER OF DEATHS BY MONTHS UNDER 1 YEAR ADJUSTED GRAPHICALLY



This symbol, a figure within a circle, will be used to point out identical results by different processes, thus forming a check on the work. It is unnecessary to use them where the operator is familiar with the processes; also the ages need be set down in only a very few cases, but they have been entered nearly everywhere in this description to aid the reader. Only logarithms for age 0 are obtained here, those for the other ages being obtained by the same process.

139. The antilogarithms of the logarithms which were obtained by the process indicated in tape 138, for all the ages and calendar years needed in the following computations, are entered here, those for 1908 and 1911 being set in parallel columns, as explained in section 143. Below these are the values for 1909 and 1910, and next those for 1912 and 1913, the machine being split as in tape 137.

CALCULATION OF NUMBER OF BIRTHS.

140. This work is shown in Diagram 15 and described fully in section 106, page 338. The deaths are taken from Table 159, page 450, columns 3, 4, 5, and bottom of page.

141. This work is shown in Diagram 17, page 341. The factors at the top of the diagram are set forth in Table 109 and are described in section 109, page 340. The populations shown on the diagonal lines in this diagram were obtained from tape 139 above, and their purpose is fully described in section 109.

142. The additions necessary to obtain the number of births for any calendar year and for the three-year period 1909 to 1911 are explained in section 110, page 342. The additions finally used are shown here. On the left are shown the additions to obtain the number of births in 1909 from population aged 4-5 and on



the right those to obtain the number of births in 1910 from population aged 3-4. Below the 1909 additions are those to obtain the number of births in 1911 from population aged 2-3, while to the right of this the three totals are summed to obtain the total number of births in the three-year period 1909-1911.

**CALCULATION OF ANNUAL RATES OF MORTALITY UNDER 5 YEARS  
AND MONTHLY RATES UNDER 1 YEAR.**

143. The results shown in tapes 143 to 146 are obtained in detail in Tables 111 and 112, page 343, respectively, and full explanation is given in sections 111 and 112, pages 342 and 343. The calculations are here adapted to a computer using machine.

The machine is split between banks 16-17, 9-10, and 3-4. The differences  ${}_{1911-\text{December-31}}P_x - {}_{1908-\text{December-31}}P_x$ , as obtained mentally from tape 139, are entered in banks 10 to 13. One-half these differences are entered in banks 4 to 7, the .5, where the number is odd, being entered in the last column to the right. The ages are entered in bank 17. Beneath the totals of these columns the sum of the 1908 values on the left of tape 139 is subtracted from the sum of the 1911 values on the right, while the total sum of the  $\frac{1}{2}\delta_x$  is repeated twice on the right. As indicated by the ③ mark, the totals agree in each case, thus affording a check on the work of subtraction and division.

144. As explained in section 112, page 343, since  $\frac{1}{12}$  of  $5,601 = 466 + 9/12$ ,  $\delta_x^{(12)}$  for the first nine months was taken as 467 and for the last three months as 466. Accordingly,  $\frac{1}{2}\delta_0^{(12)}$  is taken as 234 and  $\frac{1}{2}(\delta_x^{(12)} + \delta_{x+1}^{(12)})$  as 467 for the next nine months, since  $(467 + 466)/2$  was set equal to 467; then  $\frac{1}{2}(\delta_x^{(12)} + \delta_{x+1}^{(12)})$  is set equal to 466 for the next two months and  $\frac{1}{2}\delta_{x+1}^{(12)}$  to 233. In order to check these results and furnish a memorandum to the operator, 234, nine times 467, two times 466, and 233 are added in three parallel columns in tape 144, giving a total of 5,602 instead of 5,601, because  $467/2$  was taken equal to 234 and  $(467 + 466)/2$  to 467.  $\delta_x^{(12)}$  is used here for months in place of  $\delta_x$ , which is used for years.

145. The adjusted deaths by months under 1 year which are used in these computations are shown in column 3 of the table in the upper right corner of Graph 136, and the deaths for single years under 5 are found in column 6 of Table 159, page 450. To obtain those exposed to risk of death during each month of age under 1 year and during the single years under 5, equations (29) and (30), pages 342 and 343, were used. The machine was split between banks 11-12 and 7-8. On the left of the tape  $E_0$  was entered from tape 142 and to it was added the complement of  $\frac{1}{2}\delta_0^{(12)} = 234$ , giving 346,430 as subtotal. Then to this was added the complement of  $\frac{1}{2}(\delta_0^{(12)} + \delta_1^{(12)}) = 467$  and  $D_0^{(12)} = 16,404$ , and a subtotal taken. This process was repeated until 467 had been subtracted nine times, or until the number of deaths during the monthly age interval 8-9,  $D_8^{(12)} = 1,835$ ,

was subtracted. Then 466 was subtracted both with  $D_9^{(12)}$  and with  $D_{10}^{(12)}$ . This gave the exposed to risk for each of the twelve months of life under 1 year. To obtain a similar value for the year 1-2, the remainder of  $\delta_0$  or  $\frac{1}{2}\delta_{11}^{(12)}$  from tape 144 and deaths during twelfth month  $D_{11}^{(12)} = 1,600$  were subtracted, and then  $\frac{1}{2}\delta_1 = 2,449$  from tape 143, giving the subtotal 294,770. Then from this subtotal were subtracted 2,449 and 2,984 from tape 143 and  $D_1$  and a subtotal taken, from which were subtracted 2,983, 2,355, and  $D_2$ , and so on. When  $\frac{1}{2}\delta_x$  ended in .5 it was increased by unity the first time it was subtracted but not the second time. The total of the values  $\delta_x$  subtracted in tape 145 would equal  $24,874 - 1,849 + 1$ . The +1 is due to  $\frac{1}{2}\delta_0^{(12)}$  and  $\frac{1}{2}(\delta_8^{(12)} + \delta_9^{(12)})$  each being increased by .5.

Then the adding-machine paper was rolled back to the beginning of tape 145, and on the right side, opposite the subtotals on the left, the deaths by months under 1 year from column 3 of the table in the upper right-hand corner of Graph 136 and those for ages 1 to 4 years from column 6 of Table 159, page 450, were set down and a subtotal taken at the end. All these deaths except those during the 4-5 year, 1,723, were subtracted on the left side of tape 145. Accordingly, 1,723 was subtracted from this subtotal, 62,342; also the quantity 24,874 less 1,849, from tape 143, and plus 1 were added, and a subtotal taken. This subtotal is the sum of all quantities subtracted from the left of tape 145, since all the deaths except those for age 4-5 and all the  $\delta_x$  in tape 143 except the last half of  $\delta_4$  were subtracted. As explained in section 144, the 1 is due to taking  $467/2 = 234$  and  $(467 + 466)/2 = 467$ . The complement of this subtotal was set up and repeated twice and to this  $E_0$  from tape 142 was added. The total is the same as that obtained on the left of tape 145 as indicated by the mark ③.

At the same time the deaths were being entered on the right side of tape 145 the ages were entered in banks 8 and 9.

146. Then each  $D_x^{(12)}$  in tape 145 was divided by the  $E_x^{(12)} - \frac{1}{2}\delta_x^{(12)}$  opposite, and the quotient to the nearest sixth decimal place was set down on the left side of tape 146, while on the right side its complement was entered, thus giving  $10^6q_x^{(12)}$  and  $10^6p_x^{(12)}$ , respectively. The machine was split between banks 10-11 and 6-7.

A check on the  $10^6p_x$  is that the sums of  $10^6q_x$  and  $10^6p_x$  should be complements.

**OSCULATORY INTERPOLATION.<sup>1</sup>**

147. As stated in section 131 on page 364, the osculatory interpolation formula was applied to the population and deaths summed in groups 4-8, 9-13, and so on. The machine was split between banks

<sup>1</sup> A short method of constructing abridged life tables will be found in the Supplement to the Seventy-fifth Annual Report of the Registrar-General of England and Wales, Part I, Life Tables, pp. 26-33.

CALCULATION OF THE LIFE TABLE FOR MALES IN THE STATE OF NEW YORK: 1910  
PHOTOGRAPHS OF DIAGRAMS AND ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS

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| $x$ | 1910   | $P_x$    | 1900 * |
|-----|--------|----------|--------|
| 0   | 97764  | 80,771   |        |
| 1   | 86619  | 71,740   |        |
| 2   | 94229  | 76,300   |        |
| 3   | 90718  | 76,304   |        |
| 4   | 86876  | 75,381   |        |
|     | 456206 | 380,496* |        |

141

| Factors | $\frac{28}{72}$ | $\frac{41}{39}$ | $\frac{47}{33}$ | $\frac{48}{32}$ | $\frac{48}{32}$ |
|---------|-----------------|-----------------|-----------------|-----------------|-----------------|
|         | 0               | 1               | 2               | 3               | 4               |
| 1908    | 10490           | 10,968          |                 |                 |                 |
| 1909    | 4266            | 3,931           |                 |                 |                 |
| 1910    | 2007            | 1,766           |                 |                 |                 |
| 1911    | 1227            | 1,201           |                 |                 |                 |
| 1912    | 700             | 669             |                 |                 |                 |
| 1913    | 594             | 613             |                 |                 |                 |
|         | 377             | 418             |                 |                 |                 |
|         | 385             |                 |                 |                 |                 |
|         | 320             |                 |                 |                 |                 |
|         | 91300           | 96,382          |                 |                 |                 |
|         | 111666          | 115,948*        |                 |                 |                 |
|         | 1911            | 1909 to 1911 *  |                 |                 |                 |
|         | 10109           |                 |                 |                 |                 |
|         | 3849            |                 |                 |                 |                 |
|         | 1728            |                 |                 |                 |                 |
|         | 1219            | 111,666         |                 |                 |                 |
|         | 692             | 115,948         |                 |                 |                 |
|         | 101453          | 119,050         |                 |                 |                 |
|         | 119050          | 346,664*        |                 |                 |                 |
|         |                 | $E_x$           |                 |                 |                 |

313636  
999533  
997576

|        |    |       |
|--------|----|-------|
| 310745 | 6  | 2168* |
| 999533 |    |       |
| 997932 |    |       |
| 308110 | 7  | 1978* |
| 999533 |    |       |
| 998022 |    |       |
| 305665 | 8  | 1835* |
| 999533 |    |       |
| 998165 |    |       |
| 303363 | 9  | 1729* |
| 999533 |    |       |
| 998271 |    |       |
| 301168 | 10 | 1650* |
| 999533 |    |       |
| 998350 |    |       |
| 299052 | 11 | 1600* |
| 999767 |    |       |
| 997551 |    |       |
| 998400 |    |       |

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| $x$ | $\Delta T_x$ | $\Delta(30)_x$ |
|-----|--------------|----------------|
| 4   | 414281       | 5,796*         |
| 9   | 394479       | 2,887          |
| 14  | 405619       | 4,162          |
| 19  | 453339       | 7,241          |
| 24  | 470580       | 8,904          |
| 29  | 404730       | 9,747          |
| 34  | 377846       | 12,124         |
| 39  | 324887       | 12,723         |
| 44  | 265517       | 12,819         |
| 49  | 226307       | 13,658         |
| 54  | 161059       | 13,314         |
| 59  | 121076       | 14,039         |
| 64  | 90344        | 14,312         |
| 69  | 61511        | 13,705         |
| 74  | 36675        | 11,822         |
| 79  | 17867        | 8,421          |
| 84  | 7203         | 4,973          |
| 89  | 2024         | 1,786          |
| 94  | 325          | 357            |
| 99  | 49           | 76             |
| 104 | 7            | 11             |
| 109 | 1            | 2              |

138

$\log_e P_0$

|                     |  |
|---------------------|--|
| 999999999509274,450 |  |
| 8292350*            |  |
| 8292350             |  |
| 8292350             |  |
| 4146,175            |  |
| 4146,175            |  |
| 1900 4907255,500    |  |
| 1906 4977740,475*   |  |
| 1 8292350           |  |
| 1909 4986032,825*   |  |
| 1 8292350           |  |
| 1910 4994325,175*   |  |
| 1 8292350           |  |
| 1911 5002617,525*   |  |
| 1 8292350           |  |
| 1912 5010909,875*   |  |
| 1 8292350           |  |
| 1913 ① 5019202,225* |  |
| 1910 4990179,000*   |  |
| 1 8292350           |  |
| 1 8292350           |  |
| 1 8292350           |  |
| 1 4146,175          |  |
| 1913 ① 5019202,225* |  |

139

| $x$ | 1908   | $P_x$    | 1911 * |
|-----|--------|----------|--------|
| 0   | 95004  | 100,605  |        |
| 1   | 84205  | 89,103   |        |
| 2   | 91293  | 97,260   |        |
| 3   | 88394  | 93,103   |        |
| 4   | 85046  | 88,745   |        |
|     | 443942 | 468,816* |        |
|     | 1909   | 1910 *   |        |
| 1   | 96835  | 98,702   |        |
| 2   |        | 87,439   |        |
|     | 1912   | 1913 *   |        |
| 1   | 90798  |          |        |
| 2   | 99334  | 101,453  |        |
| 3   | 94728  | 96,382   |        |
| 4   | 90014  | 91,300   |        |

140

|      | 0      | 1              | 2 | 3 | 4 | 5 |
|------|--------|----------------|---|---|---|---|
| 1908 | 10490  | 10,968         |   |   |   |   |
| 1909 | 4266   | 3,931          |   |   |   |   |
| 1910 | 2007   | 1,766          |   |   |   |   |
| 1911 | 1227   | 1,201          |   |   |   |   |
| 1912 | 700    | 669            |   |   |   |   |
| 1913 | 594    | 613            |   |   |   |   |
|      | 377    | 418            |   |   |   |   |
|      | 385    |                |   |   |   |   |
|      | 320    |                |   |   |   |   |
|      | 91300  | 96,382         |   |   |   |   |
|      | 111666 | 115,948*       |   |   |   |   |
|      | 1911   | 1909 to 1911 * |   |   |   |   |
|      | 10109  |                |   |   |   |   |
|      | 3849   |                |   |   |   |   |
|      | 1728   |                |   |   |   |   |
|      | 1219   | 111,666        |   |   |   |   |
|      | 692    | 115,948        |   |   |   |   |
|      | 101453 | 119,050        |   |   |   |   |
|      | 119050 | 346,664*       |   |   |   |   |
|      |        | $E_x$          |   |   |   |   |

142

|        | 1909           | 1910* |
|--------|----------------|-------|
| 10490  | 10,968         |       |
| 4266   | 3,931          |       |
| 2007   | 1,766          |       |
| 1227   | 1,201          |       |
| 700    | 669            |       |
| 594    | 613            |       |
| 377    | 418            |       |
| 385    |                |       |
| 320    |                |       |
| 91300  | 96,382         |       |
| 111666 | 115,948*       |       |
| 1911   | 1909 to 1911 * |       |
| 10109  |                |       |
| 3849   |                |       |
| 1728   |                |       |
| 1219   | 111,666        |       |
| 692    | 115,948        |       |
| 101453 | 119,050        |       |
| 119050 | 346,664*       |       |
|        | $E_x$          |       |

143

| $x$ | $\delta_x$ | $\frac{1}{2}\delta_x$ | $n$ |
|-----|------------|-----------------------|-----|
| 0   | 5601       | 2800                  | 5   |
| 1   | 4898       | 2449                  | 5   |
| 2   | 5967       | 2963                  | 5   |
| 3   | 4709       | 2354                  | 5   |
| 4   | 3699       | 1849                  | 5   |
|     | ② 24874    | 12435                 | 20* |
|     | 468816     | 12437                 |     |
|     | 99556058   | 12437                 |     |
|     | ② 24874    | 24874*                |     |

144

| $\frac{1}{2}(\delta_x^{(u)} + \delta_{x+1}^{(u)})$ |      |            |
|----------------------------------------------------|------|------------|
| $\delta_x^{(u)} - 234$                             | 2102 | 3970 *     |
| 467                                                | 467  | 467        |
| 467                                                | 467  | 466        |
| 467                                                | 467  | 466        |
| 467                                                | 467  | 466        |
| 467                                                | 467  | 467        |
|                                                    | 2102 | 3970 3602* |

145

| $E_x^{(u)} - 14x^{(u)}$ | $x$ | $D_x^{(u)}$ | * |
|-------------------------|-----|-------------|---|
| 346664                  |     |             |   |
| 999766                  |     |             |   |
| 346430                  | 0   | 16,404*     |   |
| 999533                  |     |             |   |
| 983596                  |     |             |   |
| 329559                  | 1   | 4,449*      |   |
| 999533                  |     |             |   |
| 995551                  |     |             |   |
| 324643                  | 2   | 3,715*      |   |
| 999533                  |     |             |   |
| 996285                  |     |             |   |
| 320461                  | 3   | 3,151*      |   |
| 999533                  |     |             |   |
| 996649                  |     |             |   |
| 316843                  | 4   | 2,740*      |   |
| 999533                  |     |             |   |
| 997260                  |     |             |   |
| 313636                  | 5   | 2,424*      |   |

$E_x - 14x$   $D_x$

|        |   |        |
|--------|---|--------|
| 294770 | 1 | 9,917* |
| 997551 |   |        |
| 997016 |   |        |
| 990083 |   |        |
| 279420 | 2 | 4,349* |
| 997017 |   |        |
| 997645 |   |        |
| 995651 |   |        |
| 269733 | 3 | 2,510* |
| 997646 |   |        |
| 998150 |   |        |
| 997490 |   |        |

263019 ③ 4 1,723\*

|  |  |            |
|--|--|------------|
|  |  | 62,342*    |
|  |  | 99998,277  |
|  |  | 24,874     |
|  |  | 99998,151  |
|  |  | 1          |
|  |  | 83,645*    |
|  |  | 999916,335 |
|  |  | 999916,335 |
|  |  | 34,664     |
|  |  | ③ 263,019* |

146

| $10^4 q_x^{(u)}$ | $10^4 p_x^{(u)}$ |
|------------------|------------------|
| 47352            | 952648           |
| 13500            | 986500           |
| 11443            | 988557           |
| 9833             | 990167           |
| 8648             | 991352           |
| 7729             | 992271           |
| 6977             | 993023           |
| 6420             | 993580           |
| 6003             | 993997           |
| 5699             | 994301           |
| 5479             | 994521           |
| 5350             | 994650           |

$10^4 q_x$   $10^4 p_x$

|        |         |
|--------|---------|
| 33643  | 966357  |
| 15564  | 984436  |
| 9305   | 990695  |
| 6551   | 993449  |
| 199496 | 800504* |

147

| $x$ | $P_x$  | $(3d)_x$ |
|-----|--------|----------|
| 4   | 86876  | 1,723    |
|     | 83663  | 1,344    |
|     | 83257  | 1,098    |
|     | 82036  | 885      |
|     | 78449  | 746      |
| 4   | 414281 | 5,796*   |
| 9   | 77758  | 637      |
|     | 79986  | 567      |
|     | 74846  | 567      |
|     | 83071  | 566      |
|     | 78818  | 550      |
| 9   | 394479 | 2,887*   |

150

| $\Delta^2 T_x$ | $\Delta^2(37)_x$ |
|----------------|------------------|
| 414281         | 5,796*           |
| 99980198       | 997,091          |
| 11140          | 1,275            |
| 47720          | 3,079            |
| 17241          | 1,643            |
| 99934150       | 843              |
| 99973114       | 2,377            |
| 99947041       | 599              |
| 99940630       | 96               |
| 99960790       | 839              |
| 99934752       | 999,656          |
| 99960017       | 725              |
| 99969268       | 273              |
| 99971167       | 999,393          |
| 99975164       | 998,117          |
| 99981192       | 996,599          |
| 99969336       | 996,552          |
| 99994821       | 996,813          |
| 99998301       | 996,571          |
| 99999724       | 999,719          |
| 99999958       | 999,933          |
| 99999994       | 999,921          |
| 1              | 2*               |

99999994 999,991\*

15-16 and 7-8. The population and death statistics are on page 450, columns 2 and 6, respectively, of Table 159. Beginning with age 4, this number was set up in bank 16, then  $P_4 = 86,876$  in banks 8 and 12, and  $(3d)_4 = 1,723$  on the right. Since the deaths are for a three-year period, they are indicated by  $(3d)_x$  instead of by  $d_x$ . To these last two values those through age 8-9 were added, and a total taken. Immediately below this, 9 was entered in bank 16 and the populations and deaths added from age 9-10 through age 13-14, and a total taken, and so on until the values for ages 109-113 had been added. The  $P_{135}$  was not used. These additions are shown here for only age groups 4-8 and 9-13.

148. Then the totals obtained in tape 147 were copied in tape 148, a space being left after each fifth value and also after the last values, 1 and 2, respectively. To check these totals the values for ages 0 to 3-4 years were added, as well as those beyond age 113-114. The first values were obtained by adding the totals of groups 0-4 from the left of tape 137 and from the right of tape 145, respectively, and then subtracting 86,876 and 1,723, respectively, the values for age 4. Also  $P_{135} = 1$  was added. This gives for the total population 4,605,057 and for deaths 233,498, which agree with the totals at the top of columns 2 and 6, respectively, in Table 159, page 450. The machine was split between banks 15-16 and 7-8, the ages being entered in banks 16-17. The ages in tapes 149 to 153 are the same as in tape 148, except that one age group is lost at the end every time a column is differenced. Hence the last age group in tape 149 is 104-108; in tape 150, 99-103; and so on.

149. The formula used for osculatory interpolation requires the first five quinquennial differences of  $T_x$  and  $(3l)_x$ , and they are shown in tapes 148 to 152.

To shorten the work of differencing and to increase its accuracy, all negative numbers were entered directly upon the adding machine, while only the complements of positive numbers were set up. Since all the  $\Delta T_x$  and  $\Delta(3l)_x$  were negative, they were entered directly in tape 148. This does away with the necessity for using signs and reduces the whole process of differencing to the subtraction, arithmetically, of the upper value from the one immediately below it. This subtraction was done mentally and the results entered on the adding machine. When the lower number is less than the upper one, the lower number may be supposed to be increased by unity in the first space beyond the left of the machine or beyond the split at the left. Thus, in subtracting 414,281 from 394,479, the latter was treated as though it were 100,394,479, so that subtracting 414,281 from it gives 99,980,198; this last number is the complement of +19,802 which would be obtained if +414,281 were added algebraically to -394,479.

In order to check the work of differencing as it is being done, the top value of the column being differenced was set down and a space taken between it and the first differences. Then when the first difference is set down the total appearing through the glass at the base of the machine should be the lower number. For example, the two columns in tape 149 begin as follows:

|           |        |
|-----------|--------|
| 414281    | 5796   |
| 999980198 | 997091 |

Then through the glass at the base of the machine should appear the lower numbers,

|        |        |
|--------|--------|
| 394479 | 1 2887 |
|--------|--------|

When the second set of differences have been put down:

|           |        |
|-----------|--------|
| 414281    | 5796   |
| 999980198 | 997091 |
| 11140     | 1275   |

Then through the glass at the base of the machine should appear the lower numbers,

|        |        |
|--------|--------|
| 405619 | 1 4162 |
|--------|--------|

and so on. Thus by comparing the totals through the glass at the base of the machine with the lower numbers in tape 148, after setting down each set of differences, the operator can check his work as he goes along. The totals in tape 149 are 1 and 2, which are the last values in tape 148, and this is a check on the work, but not a complete one, since compensating errors would not alter the final result. After tape 149 is completed a pencil line is drawn through  $\Delta T_4$  and  $\Delta(3l)_4$  to avoid confusing them with the  $\Delta^2 T_x$  and  $\Delta^2(3l)_x$ , respectively. The machine was split between banks 9-10 and 6-7.

150-152. In the same way the first values of tape 149 were set up in tape 150, the machine spaced, and the differences of the values in tape 149 set up. As before, the operator can check his work after entering each set of differences. The totals in tape 150 are 9,999,994 and 9,999,991, which agree with the last values in tape 149.

In the same way tape 151 is obtained from tape 150, and tape 152 from tape 151. The  $\Delta^4 T_4$  and  $\Delta^4(3l)_4$  at the top of tape 152 were subtracted at the end of this tape, so that the final totals are the sums of the fifth differences only.

153. As indicated in Table 115, page 347, the work is shortened by using  $.0016\Delta^5 T_x$  and  $.0016\Delta^5(3l)_x$ . Accordingly the fifth differences in tape 152 are multiplied by 16 and the product set up on the adding machine in tape 153 in the columns headed  $16\Delta^5 T_x$  and  $16\Delta^5(3l)_x$ . After each fifth value a subtotal was taken and a space left after each subtotal, so that these values might not be confused with the products themselves. At the end a total was taken.

CALCULATION OF THE LIFE TABLE FOR MALES IN THE STATE OF NEW YORK: 1910  
PHOTOGRAPHS OF DIAGRAMS AND ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS

137

| $x$ | 1910   | $P_x$  | 1900 |
|-----|--------|--------|------|
| 0   | 97764  | 80771  |      |
| 1   | 86619  | 71740  |      |
| 2   | 94229  | 76300  |      |
| 3   | 90718  | 76304  |      |
| 4   | 86876  | 75381  |      |
|     | 456206 | 380496 |      |

138

| $x$                | $\log_2 P_0$ |
|--------------------|--------------|
| 499017900          |              |
| 99999999 509274450 |              |
| 8292350            |              |
| 8292350            |              |
| 8292350            |              |
| 4146175            |              |
| 4146175            |              |
| 1900 4907255500    |              |
| 1900 4977740475    |              |
| 8292350            |              |
| 1909 4986032825    |              |
| 8292350            |              |
| 1910 4994325175    |              |
| 8292350            |              |
| 1911 5002617525    |              |
| 8292350            |              |
| 1912 5010909875    |              |
| 8292350            |              |
| 1913 5019202225    |              |
| 1910 4990179000    |              |
| 8292350            |              |
| 8292350            |              |
| 8292350            |              |
| 4146175            |              |
| 1913 5019202225    |              |

139

| $x$  | 1908   | $P_x$  | 1911 |
|------|--------|--------|------|
| 0    | 95004  | 100605 |      |
| 1    | 84205  | 89103  |      |
| 2    | 91293  | 97260  |      |
| 3    | 88394  | 93103  |      |
| 4    | 85046  | 88745  |      |
|      | 443942 | 468816 |      |
| 1909 |        | 1910   |      |
| 1    | 96835  | 98702  |      |
| 2    |        | 87439  |      |
| 1918 |        | 1913   |      |
| 1    | 90798  |        |      |
| 2    | 99334  | 101453 |      |
| 3    | 94728  | 96382  |      |
| 4    | 90014  | 91300  |      |

140

| $x$  | 1     | 2    | 3    | 4   | 5   |
|------|-------|------|------|-----|-----|
| 1908 | 15841 | 3401 | 1330 | 725 | 418 |
| 1909 | 15216 | 2938 | 1263 | 682 |     |
| 1910 | 14640 | 2523 | 1203 |     |     |
| 1911 | 13746 | 2074 |      |     |     |
| 1912 |       |      |      |     |     |
| 1913 |       |      |      |     |     |

141

| Factors | 28   | 41   | 47  | 48  | 48  |
|---------|------|------|-----|-----|-----|
|         | 72   | 89   | 83  | 82  | 82  |
| 1908    | 1072 | 1224 | 520 | 358 | 572 |
| 1909    | 1041 | 1200 | 504 | 358 | 572 |
| 1910    | 1016 | 1176 | 488 | 358 | 572 |
| 1911    | 991  | 1152 | 472 | 358 | 572 |
| 1912    | 966  | 1128 | 456 | 358 | 572 |
| 1913    | 941  | 1104 | 440 | 358 | 572 |

142

| 1909   | 1910         |
|--------|--------------|
| 10490  | 10968        |
| 4266   | 3931         |
| 2007   | 1766         |
| 1227   | 1201         |
| 700    | 669          |
| 594    | 613          |
| 377    | 418          |
| 385    |              |
| 320    |              |
| 91300  | 96382        |
| 111666 | 115948       |
| 1911   | 1901 to 1911 |
| 10109  |              |
| 3849   |              |
| 1728   |              |
| 1219   |              |
| 692    |              |
| 101453 | 119050       |
| 119050 | 346664       |
|        | $E_0$        |

143

| $x$      | $\delta_x$ | $\frac{1}{2}\delta_x$ | $\delta$ |
|----------|------------|-----------------------|----------|
| 0        | 5601       | 2800.5                | 5        |
| 1        | 4898       | 2449                  |          |
| 2        | 5967       | 2983.5                | 5        |
| 3        | 4709       | 2354.5                | 5        |
| 4        | 3699       | 1849.5                | 5        |
| 24874    | 12435      | 208                   |          |
| 468816   | 12437      |                       |          |
| 99556058 | 12437      |                       |          |
| 24874    | 24874      |                       |          |

144

| $\frac{1}{2}(\delta_x^{(1)} + \delta_x^{(2)})$ |
|------------------------------------------------|
| 234 2102 3970                                  |
| 467 467 467                                    |
| 467 467 466                                    |
| 467 467 466                                    |
| 467 467 466                                    |
| 2102 3970 5602                                 |

145

| $E_x^{(1)} - \frac{1}{2}\delta_x^{(1)}$ | $x$ | $D_x^{(1)}$ |
|-----------------------------------------|-----|-------------|
| 346664                                  | 0   | 164043      |
| 999766                                  |     |             |
| 346430                                  | 1   | 44498       |
| 999533                                  |     |             |
| 983596                                  |     |             |
| 329559                                  | 2   | 37158       |
| 999533                                  |     |             |
| 995551                                  |     |             |
| 324643                                  | 3   | 31513       |
| 999533                                  |     |             |
| 996283                                  |     |             |
| 320461                                  | 4   | 27403       |
| 999533                                  |     |             |
| 996849                                  |     |             |
| 316843                                  | 5   | 24248       |
| 999533                                  |     |             |
| 997260                                  |     |             |
| 313636                                  |     |             |

313636  
999533  
997576

| $x$ | $\Delta T_x$ | $\Delta(30)_x$ |
|-----|--------------|----------------|
| 4   | 414281       | 5796           |
| 9   | 394479       | 2887           |
| 14  | 405619       | 4162           |
| 19  | 453339       | 7241           |
| 24  | 470580       | 6904           |
| 29  | 404730       | 9747           |
| 34  | 377846       | 12124          |
| 39  | 324887       | 12733          |
| 44  | 265517       | 12819          |
| 49  | 226307       | 13658          |
| 54  | 161059       | 13314          |
| 59  | 121076       | 14039          |
| 64  | 90344        | 14312          |
| 69  | 61511        | 13705          |
| 74  | 36675        | 11822          |
| 79  | 17867        | 8421           |
| 84  | 7203         | 4973           |
| 89  | 2024         | 1786           |
| 94  | 325          | 357            |
| 99  | 49           | 76             |
| 104 | 7            | 11             |
| 109 | 1            | 2              |

310745  
999533  
997832

| $x$ | $\Delta T_x$ | $\Delta(30)_x$ |
|-----|--------------|----------------|
| 4   | 414281       | 5796           |
| 9   | 394479       | 2887           |
| 14  | 405619       | 4162           |
| 19  | 453339       | 7241           |
| 24  | 470580       | 6904           |
| 29  | 404730       | 9747           |
| 34  | 377846       | 12124          |
| 39  | 324887       | 12733          |
| 44  | 265517       | 12819          |
| 49  | 226307       | 13658          |
| 54  | 161059       | 13314          |
| 59  | 121076       | 14039          |
| 64  | 90344        | 14312          |
| 69  | 61511        | 13705          |
| 74  | 36675        | 11822          |
| 79  | 17867        | 8421           |
| 84  | 7203         | 4973           |
| 89  | 2024         | 1786           |
| 94  | 325          | 357            |
| 99  | 49           | 76             |
| 104 | 7            | 11             |
| 109 | 1            | 2              |

| $x$ | $\Delta T_x$ | $\Delta(30)_x$ |
|-----|--------------|----------------|
| 4   | 414281       | 5796           |
| 9   | 394479       | 2887           |
| 14  | 405619       | 4162           |
| 19  | 453339       | 7241           |
| 24  | 470580       | 6904           |
| 29  | 404730       | 9747           |
| 34  | 377846       | 12124          |
| 39  | 324887       | 12733          |
| 44  | 265517       | 12819          |
| 49  | 226307       | 13658          |
| 54  | 161059       | 13314          |
| 59  | 121076       | 14039          |
| 64  | 90344        | 14312          |
| 69  | 61511        | 13705          |
| 74  | 36675        | 11822          |
| 79  | 17867        | 8421           |
| 84  | 7203         | 4973           |
| 89  | 2024         | 1786           |
| 94  | 325          | 357            |
| 99  | 49           | 76             |
| 104 | 7            | 11             |
| 109 | 1            | 2              |

146

| $10^4 q_x^{(1)}$ | $10^4 p_x^{(1)}$ |
|------------------|------------------|
| 47352            | 952648           |
| 13500            | 986500           |
| 11443            | 988357           |
| 9833             | 990167           |
| 8648             | 991352           |
| 7729             | 992271           |
| 6977             | 993023           |
| 6420             | 993580           |
| 6003             | 993997           |
| 5699             | 994301           |
| 5479             | 994521           |
| 5350             | 994650           |
| 33643            | 966337           |
| 15564            | 984436           |
| 9305             | 990385           |
| 6551             | 993449           |
| 199496           | 800504           |

147

| $x$ | $P_x$  | $(3d)_x$ |
|-----|--------|----------|
| 4   | 86876  | 1723     |
|     | 83663  | 1344     |
|     | 83297  | 1098     |
|     | 82036  | 885      |
|     | 78449  | 746      |
| 4   | 414281 | 5796     |
| 9   | 77758  | 637      |
|     | 79986  | 567      |
|     | 74846  | 567      |
|     | 83071  | 566      |
|     | 78818  | 550      |
| 9   | 394479 | 2887     |

148

| $x$ | $\Delta T_x$ | $\Delta(30)_x$ |
|-----|--------------|----------------|
| 4   | 414281       | 5796           |
| 9   | 394479       | 2887           |
| 14  | 405619       | 4162           |
| 19  | 453339       | 7241           |
| 24  | 470580       | 6904           |
| 29  | 404730       | 9747           |
| 34  | 377846       | 12124          |
| 39  | 324887       | 12733          |
| 44  | 265517       | 12819          |
| 49  | 226307       | 13658          |
| 54  | 161059       | 13314          |
| 59  | 121076       | 14039          |
| 64  | 90344        | 14312          |
| 69  | 61511        | 13705          |
| 74  | 36675        | 11822          |
| 79  | 17867        | 8421           |
| 84  | 7203         | 4973           |
| 89  | 2024         | 1786           |
| 94  | 325          | 357            |
| 99  | 49           | 76             |
| 104 | 7            | 11             |
| 109 | 1            | 2              |

| $x$ | $\Delta T_x$ | $\Delta(30)_x$ |
|-----|--------------|----------------|
| 4   | 414281       | 5796           |
| 9   | 394479       | 2887           |
| 14  | 405619       | 4162           |
| 19  | 453339       | 7241           |
| 24  | 470580       | 6904           |
| 29  | 404730       | 9747           |
| 34  | 377846       | 12124          |
| 39  | 324887       | 12733          |
| 44  | 265517       | 12819          |
| 49  | 226307       | 13658          |
| 54  | 161059       | 13314          |
| 59  | 121076       | 14039          |
| 64  | 90344        | 14312          |
| 69  | 61511        | 13705          |
| 74  | 36675        | 11822          |
| 79  | 17867        | 8421           |
| 84  | 7203         | 4973           |
| 89  | 2024         | 1786           |
| 94  | 325          | 357            |
| 99  | 49           | 76             |
| 104 | 7            | 11             |
| 109 | 1            | 2              |

149

| $x$ | $\Delta T_x$ | $\Delta(30)_x$ |
|-----|--------------|----------------|
| 4   | 414281       | 5796           |
| 9   | 394479       | 2887           |
| 14  | 405619       | 4162           |
| 19  | 453339       | 7241           |
| 24  | 470580       | 6904           |
| 29  | 404730       | 9747           |
| 34  | 377846       | 12124          |
| 39  | 324887       | 12733          |
| 44  | 265517       | 12819          |
| 49  | 226307       | 13658          |
| 54  | 161059       | 13314          |
| 59  | 121076       | 14039          |
| 64  | 90344        | 14312          |
| 69  | 61511        | 13705          |
| 74  | 36675        | 11822          |
| 79  | 17867        | 8421           |
| 84  | 7203         | 4973           |
| 89  | 2024         | 1786           |
| 94  | 325          | 357            |
| 99  | 49           | 76             |
| 104 | 7            | 11             |
| 109 | 1            | 2              |

150

| $x$ | $\Delta T_x$ | $\Delta(30)_x$ |
|-----|--------------|----------------|
| 4   | 414281       | 5796           |
| 9   | 394479       | 2887           |
| 14  | 405619       | 4162           |
| 19  | 453339       | 7241           |
| 24  | 470580       | 6904           |
| 29  | 404730       | 9747           |
| 34  | 377846       | 12124          |
| 39  | 324887       | 12733          |
| 44  | 265517       | 12819          |
| 49  | 226307       | 13658          |
| 54  | 161059       | 13314          |
| 59  | 121076       | 14039          |
| 64  | 90344        | 14312          |
| 69  | 61511        | 13705          |
| 74  | 36675        | 11822          |
| 79  | 17867        | 8421           |
| 84  | 7203         | 4973           |
| 89  | 2024         | 1786           |
| 94  | 325          | 357            |
| 99  | 49           | 76             |
| 104 | 7            | 11             |
| 109 | 1            | 2              |

Then the totals of the fifth differences in tape 152 were set once in unit's place, once in ten's place, and then one-half these totals once in ten's place, giving as sum 16 times these totals. As indicated by the mark ④, these totals agree with those obtained just above.

If they do not agree the error can be located approximately as follows: Fasten back the platen so that the tape may not be marred. Then mentally subtract the first difference in tape 151 from the middle value, that is, 5,638 from 99,992,648, setting the difference down on the adding machine, thus:

$$\begin{array}{r|l} 99,987,010 & \\ 99,870,100 & \text{which gives } 99,792,160, \\ 99,935,050 & \end{array}$$

and should be the second subtotal in tape 153. If it did not agree with this second subtotal, that would indicate that the error was above the second subtotal, so that 16 times (19,664 - 5,638) from tape 151 would be found in the same way and compared with the first subtotal in tape 153.

#### INTERPOLATION BY CONTINUOUS ADDITION.

154. As stated on page 346, the work of interpolation was carried out by continuous addition with corrected fifth differences. In order to start these additions the leading unit differences of the youngest age, that is, age 4, were required. Equations (42) for these leading unit differences, page 347, are copied as equations (79) in a slightly different order without fractions and in terms of  $T_4$  instead of  $y_4$ . In this table  $\Delta^4 T_4$ ,  $\Delta^3 T_4$ ,  $\Delta^2 T_4$ , and  $\Delta T_4$  each head the column in which are written its coefficients in the four equations given below. For example,  $10^4 \delta^3 T_4 = -96 \Delta^4 T_4 + 80 \Delta^3 T_4$ .

Equations (79)

| Leading unit differences. | $\Delta^4 T_4$ | $\Delta^3 T_4$ | $\Delta^2 T_4$ | $\Delta T_4$ |
|---------------------------|----------------|----------------|----------------|--------------|
| $10^4 \delta^4 T_4 =$     | + 16           |                |                |              |
| $10^4 \delta^3 T_4 =$     | - 96           | + 80           |                |              |
| $10^4 \delta^2 T_4 =$     | + 256          | - 320          | + 400          |              |
| $10^4 \delta T_4 =$       | - 336          | + 480          | - 800          | + 2000       |
| Totals                    | - 160          | + 240          | - 400          | + 2000       |

In order to check the work it should be noted that the sum of the factors of  $\Delta^4 T_4$  equals minus ten times the first factor; that the sum of the factors of  $\Delta^3 T_4$  equals one-half the last factor; that the sum of the factors of  $\Delta^2 T_4$  equals minus the first factor.

$\Delta^4 T_4$  from tape 151 was set up on the computing machine and multiplied by the factors in the second column of equations (79), beginning at the top. These products were entered upon the adding machine as obtained, and a space taken; then ten times the first factor was added, giving zero as a total, and thus checking these products. Where the factors in equations (79) are negative, the complements of the

products were entered instead of the products themselves.

$\Delta^3 T_4$  from tape 150 was set up on the computing machine and multiplied by the factors in the third column of equations (79), beginning at the top. These products were entered upon the adding machine as obtained and a space taken; then the sum as seen through the glass at the base of the machine was added, giving a total equal to the last product.

$\Delta^2 T_4$  from tape 149 was set up on the computing machine and multiplied by the two factors in the fourth column of equations (79). These were entered upon the adding machine, a space taken, and the first product added again, giving zero for total.

Since these three groups of products are in the same order as the factors in equations (79),  $10^4 \delta^4 T_4$  is at the top of the first group, or the third from the last of the first group;  $10^4 \delta^3 T_4$  is the sum of the two products second from the last in each of the first two groups;  $10^4 \delta^2 T_4$  is the sum of the three products next to the last in each group;  $10^4 \delta T_4$  is the sum of the three products last in each group plus +2,000 times  $\Delta T_4$ , 414,281, at the top of tape 148.

155. As a check on the additions made in tapes 158 to 161, the first four leading unit differences of some older age, near the end of the additions, were computed directly from equations (40) on page 346. For the convenience of the operator the equations are given as equations (80) in a different order, without fractions, and in terms of  $T_{x-10}$  and  $T_x$  instead of  $y_n$  and  $y_{n+2}$ . As in equations (79), the leading quinquennial differences of  $T_{x-10}$  each head a column in which are written its coefficients in the four equations for the leading unit differences of  $T_x$ .

Equations (80)

| Leading unit differences. | $\Delta^4 T_{x-10}$ | $\Delta^3 T_{x-10}$ | $\Delta^2 T_{x-10}$ | $\Delta T_{x-10}$ |
|---------------------------|---------------------|---------------------|---------------------|-------------------|
| $10^4 \delta^4 T_x =$     | - 32                | + 16                |                     |                   |
| $10^4 \delta^3 T_x =$     | - 48                | + 64                | + 80                |                   |
| $10^4 \delta^2 T_x =$     | + 48                | + 16                | + 480               | + 400             |
| $10^4 \delta T_x =$       | + 16                | - 176               | + 880               | + 3200            |
| Totals                    | - 16                | - 80                | + 1440              | + 3600            |
|                           |                     |                     |                     | + 2000            |

In order to check the work it should be noted that the sum of the factors of  $\Delta^5 T_{x-10}$  is minus the last factor; that the sum of the factors of  $\Delta^4 T_{x-10}$  is minus the sum of the first two factors; that the sum of the factors of  $\Delta^3 T_{x-10}$  is three times the central factor; and that the sum of the factors of  $\Delta^2 T_{x-10}$ , added to the first factor, is ten times the first factor.

From equations (80) it appears that the leading unit differences of  $T$  on the left are 10 years older than the leading quinquennial differences of  $T$  at the heads of the columns, from which the leading unit differences are derived. Since 89 is the age of the last  $16 \Delta^5 T_x$  in tape 157, 99 is the oldest age for which the leading unit differences can be computed accord-

CALCULATION OF THE LIFE TABLE FOR MALES IN THE STATE OF NEW YORK: 1910  
PHOTOGRAPHS OF DIAGRAMS AND ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>151</p> <p><math>\Delta^4 T_x</math>      <math>\Delta^4(31)_x</math></p> <p>99935638      997,620</p> <p>99932941      996,780</p> <p>99947388      596</p> <p>122037      2354</p> <p>99934959      996,688</p> <p>19664      1,275</p> <p>26571      1,246</p> <p>99933802      998,074</p> <p>51303      2,252</p> <p>99983986      998,479</p> <p>99992648      999,572</p> <p>2098      999,604</p> <p>2031      999,758</p> <p>2116      1,471</p> <p>99997341      308</p> <p>99997999      1,497</p> <p>99997243      999,390</p> <p>99998511      999,068</p> <p>9999802      999,840</p> <p>36 1      568</p>                                                                                                                                                                                        | <p>154</p> <p><math>10^4 \delta^4 T_x</math></p> <p>902080</p> <p>999458752</p> <p>1443,328</p> <p>998105,632</p> <p>2475,360</p> <p>990098,560</p> <p>14852,160</p> <p>7426,080</p> <p>14852,160</p> <p>992079,200</p> <p>1584,160</p> <p>992079,200</p> <p>999458,752</p> <p>2475,360</p> <p>1934,112</p> <p>1443,328</p> <p>990098,560</p> <p>992079,200</p> <p>983621,088</p> <p>998105,632</p> <p>14852,160</p> <p>1584,160</p> <p>828562,000</p> <p>857361,392</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p>156</p> <p><math>X=4</math>      <math>X=9</math></p> <p>Begin</p> <p><math>X=9</math></p> <p><math>X=14</math></p> <p><math>X=19</math></p> <p>Multiples of <math>16 \Delta^4 T_x</math></p> <p><math>X=4</math>      <math>X=9</math></p> <p>98836848      231,152</p> <p>98836848      231,152</p> <p>98836848      231,152</p> <p>96510544      693,456</p> <p>98836848      231,152</p> <p>98836848      231,152</p> <p>94184840      1153,760</p> <p>98836848      231,152</p> <p>6978912      98613,088</p> <p><math>X=14</math>      <math>X=19</math></p> <p>2794704      97006,432</p> <p>2794704      97006,432</p> <p>2794704      97006,432</p> <p>8384112      91019,296</p> <p>2794704      97006,432</p> <p>2794704      97006,432</p> <p>1397520      85032,160</p> <p>2794704      97006,432</p> <p>83831776      17961,408</p> <p><math>X=24</math>      <math>X=29</math></p> <p>1355280      110,512</p> <p>1355280      110,512</p> <p>1355280      110,512</p> <p>4065840      331,536</p> <p>1355280      110,512</p> <p>1355280      110,512</p> <p>6776400      552,560</p> <p>1355280      110,512</p> <p>91868320      99336,928</p> | <p><math>X=34</math>      <math>X=39</math></p> <p>98835696      1560,016</p> <p>98835696      1560,016</p> <p>98835696      1560,016</p> <p>96507088      4680,048</p> <p>98835696      1560,016</p> <p>98835696      1560,016</p> <p>94178480      7800,080</p> <p>98835696      1560,016</p> <p>6985824      90639,904</p> <p><math>X=44</math>      <math>X=49</math></p> <p>98922928      138,592</p> <p>98922928      138,592</p> <p>98922928      138,592</p> <p>96768784      415,776</p> <p>98922928      138,592</p> <p>98922928      138,592</p> <p>94614640      692,960</p> <p>98922928      138,592</p> <p>6462432      99168,448</p> <p><math>X=54</math>      <math>X=59</math></p> <p>151200      99998,928</p> <p>151200      99998,928</p> <p>151200      99998,928</p> <p>4536008      99996,784</p> <p>151200      99998,928</p> <p>151200      99998,928</p> <p>756000      99994,640</p> <p>151200      99998,928</p> <p>99092800      6,432</p> <p><math>X=64</math>      <math>X=69</math></p> <p>1360      99923,600</p> <p>1360      99923,600</p> <p>1360      99923,600</p> <p>40800      99770,800</p> <p>1360      99923,600</p> <p>1360      99923,600</p> <p>6800      99618,000</p> <p>1360      99923,600</p> <p>99991840      458,400</p> <p><math>X=74</math>      <math>X=79</math></p> <p>10464      99999,168</p> <p>10464      99999,168</p> <p>10464      99999,168</p> <p>31392      99997,504</p> <p>10464      99999,168</p> <p>10464      99999,168</p> <p>52320      99995,840</p> <p>10464      99999,168</p> <p>99937816      4,992</p> <p><math>X=84</math>      <math>X=89</math></p> <p>13888      15856</p> <p>13888      15856</p> <p>13888      15856</p> <p>41664      47,568</p> <p>13888      15856</p> <p>13888      15856</p> <p>69440      75,280</p> <p>13888      15856</p> <p>99916672      99904,864</p> |
| <p>152</p> <p><math>\Delta^4 T_x</math>      <math>\Delta^4(31)_x</math></p> <p>99927303      999,160</p> <p>14447      2,816</p> <p>174669      2,758</p> <p>99812902      994,334</p> <p>84705      4,587</p> <p>6907      999,971</p> <p>99927231      996,828</p> <p>97501      4,178</p> <p>99932683      996,227</p> <p>8662      1,093</p> <p>9450      32</p> <p>9999933      154</p> <p>85      1,713</p> <p>9999225      998,837</p> <p>654      1,189</p> <p>9999948      997,893</p> <p>868      999,678</p> <p>991      772</p> <p>99994362      2,380</p> <p>99994164      2,220</p>                                                                                                                                                                                                                 | <p>155</p> <p><math>10^4 \delta^4 T_x</math></p> <p>983621,088</p> <p>998105,632</p> <p>14852,160</p> <p>1584,160</p> <p>828562,000</p> <p>857361,392</p> <p>999968,288</p> <p>999952,432</p> <p>47,568</p> <p>15856</p> <p>999980,976</p> <p>999921,904</p> <p>999980,976</p> <p>209,264</p> <p>999980,976</p> <p>999921,904</p> <p>113,840</p> <p>68,040</p> <p>123,240</p> <p>2049,120</p> <p>999320,400</p> <p>994563,200</p> <p>999320,400</p> <p>993204,000</p> <p>999968,288</p> <p>999980,976</p> <p>999949,264</p> <p>999952,432</p> <p>999921,904</p> <p>113,840</p> <p>999990,176</p> <p>47,568</p> <p>999980,976</p> <p>68,040</p> <p>999320,400</p> <p>31,984</p> <p>15856</p> <p>209,264</p> <p>123,240</p> <p>994563,200</p> <p>404,000</p> <p>82,560</p>                                                                                                                                                         | <p>157</p> <p>Multiples of <math>16 \Delta^4 T_x</math></p> <p><math>X=4</math>      <math>X=9</math></p> <p>98836848      231,152</p> <p>98836848      231,152</p> <p>98836848      231,152</p> <p>96510544      693,456</p> <p>98836848      231,152</p> <p>98836848      231,152</p> <p>94184840      1153,760</p> <p>98836848      231,152</p> <p>6978912      98613,088</p> <p><math>X=14</math>      <math>X=19</math></p> <p>2794704      97006,432</p> <p>2794704      97006,432</p> <p>2794704      97006,432</p> <p>8384112      91019,296</p> <p>2794704      97006,432</p> <p>2794704      97006,432</p> <p>1397520      85032,160</p> <p>2794704      97006,432</p> <p>83831776      17961,408</p> <p><math>X=24</math>      <math>X=29</math></p> <p>1355280      110,512</p> <p>1355280      110,512</p> <p>1355280      110,512</p> <p>4065840      331,536</p> <p>1355280      110,512</p> <p>1355280      110,512</p> <p>6776400      552,560</p> <p>1355280      110,512</p> <p>91868320      99336,928</p>                                                                                                                                      | <p><math>X=34</math>      <math>X=39</math></p> <p>98835696      1560,016</p> <p>98835696      1560,016</p> <p>98835696      1560,016</p> <p>96507088      4680,048</p> <p>98835696      1560,016</p> <p>98835696      1560,016</p> <p>94178480      7800,080</p> <p>98835696      1560,016</p> <p>6985824      90639,904</p> <p><math>X=44</math>      <math>X=49</math></p> <p>98922928      138,592</p> <p>98922928      138,592</p> <p>98922928      138,592</p> <p>96768784      415,776</p> <p>98922928      138,592</p> <p>98922928      138,592</p> <p>94614640      692,960</p> <p>98922928      138,592</p> <p>6462432      99168,448</p> <p><math>X=54</math>      <math>X=59</math></p> <p>151200      99998,928</p> <p>151200      99998,928</p> <p>151200      99998,928</p> <p>4536008      99996,784</p> <p>151200      99998,928</p> <p>151200      99998,928</p> <p>756000      99994,640</p> <p>151200      99998,928</p> <p>99092800      6,432</p> <p><math>X=64</math>      <math>X=69</math></p> <p>1360      99923,600</p> <p>1360      99923,600</p> <p>1360      99923,600</p> <p>40800      99770,800</p> <p>1360      99923,600</p> <p>1360      99923,600</p> <p>6800      99618,000</p> <p>1360      99923,600</p> <p>99991840      458,400</p> <p><math>X=74</math>      <math>X=79</math></p> <p>10464      99999,168</p> <p>10464      99999,168</p> <p>10464      99999,168</p> <p>31392      99997,504</p> <p>10464      99999,168</p> <p>10464      99999,168</p> <p>52320      99995,840</p> <p>10464      99999,168</p> <p>99937816      4,992</p> <p><math>X=84</math>      <math>X=89</math></p> <p>13888      15856</p> <p>13888      15856</p> <p>13888      15856</p> <p>41664      47,568</p> <p>13888      15856</p> <p>13888      15856</p> <p>69440      75,280</p> <p>13888      15856</p> <p>99916672      99904,864</p> |
| <p>153</p> <p><math>16 \Delta^4 T_x</math>      <math>16 \Delta^4(31)_x</math></p> <p>98836848      966,560</p> <p>231152      61,056</p> <p>2794704      28,128</p> <p>97006432      909,344</p> <p>1355280      73,392</p> <p>224416      58,480</p> <p>110512      999,536</p> <p>98835696      949,248</p> <p>1560016      66,848</p> <p>98922928      935,632</p> <p>138592      17,488</p> <p>99792160      31,232</p> <p>151200      512</p> <p>99998928      2,464</p> <p>1360      27,408</p> <p>99923600      981,392</p> <p>10464      19,024</p> <p>99877712      62,032</p> <p>99999168      966,288</p> <p>13888      994,848</p> <p>15856      12,352</p> <p>99906624      35,520</p> <p>99994164      2,220</p> <p>99941640      2,200</p> <p>99970820      11,100</p> <p>99906624      35,520</p> | <p><math>10^4 \delta^4 T_x</math></p> <p>983621,088</p> <p>998105,632</p> <p>14852,160</p> <p>1584,160</p> <p>828562,000</p> <p>857361,392</p> <p>999968,288</p> <p>999952,432</p> <p>47,568</p> <p>15856</p> <p>999980,976</p> <p>999921,904</p> <p>113,840</p> <p>999990,176</p> <p>47,568</p> <p>999980,976</p> <p>68,040</p> <p>999320,400</p> <p>31,984</p> <p>15856</p> <p>209,264</p> <p>123,240</p> <p>994563,200</p> <p>404,000</p> <p>82,560</p> <p><math>10^4 \delta^4 T_{xx}</math></p> <p>999990,176</p> <p>47,568</p> <p>999980,976</p> <p>68,040</p> <p>999320,400</p> <p>31,984</p> <p>15856</p> <p>209,264</p> <p>123,240</p> <p>994563,200</p> <p>404,000</p> <p>82,560</p> <p><math>10^4 \delta^4 T_{yy}</math></p> <p>999990,176</p> <p>47,568</p> <p>999980,976</p> <p>68,040</p> <p>999320,400</p> <p>31,984</p> <p>15856</p> <p>209,264</p> <p>123,240</p> <p>994563,200</p> <p>404,000</p> <p>82,560</p> | <p>157</p> <p>Multiples of <math>16 \Delta^4 T_x</math></p> <p><math>X=4</math>      <math>X=9</math></p> <p>98836848      231,152</p> <p>98836848      231,152</p> <p>98836848      231,152</p> <p>96510544      693,456</p> <p>98836848      231,152</p> <p>98836848      231,152</p> <p>94184840      1153,760</p> <p>98836848      231,152</p> <p>6978912      98613,088</p> <p><math>X=14</math>      <math>X=19</math></p> <p>2794704      97006,432</p> <p>2794704      97006,432</p> <p>2794704      97006,432</p> <p>8384112      91019,296</p> <p>2794704      97006,432</p> <p>2794704      97006,432</p> <p>1397520      85032,160</p> <p>2794704      97006,432</p> <p>83831776      17961,408</p> <p><math>X=24</math>      <math>X=29</math></p> <p>1355280      110,512</p> <p>1355280      110,512</p> <p>1355280      110,512</p> <p>4065840      331,536</p> <p>1355280      110,512</p> <p>1355280      110,512</p> <p>6776400      552,560</p> <p>1355280      110,512</p> <p>91868320      99336,928</p>                                                                                                                                      | <p><math>X=34</math>      <math>X=39</math></p> <p>98835696      1560,016</p> <p>98835696      1560,016</p> <p>98835696      1560,016</p> <p>96507088      4680,048</p> <p>98835696      1560,016</p> <p>98835696      1560,016</p> <p>94178480      7800,080</p> <p>98835696      1560,016</p> <p>6985824      90639,904</p> <p><math>X=44</math>      <math>X=49</math></p> <p>98922928      138,592</p> <p>98922928      138,592</p> <p>98922928      138,592</p> <p>96768784      415,776</p> <p>98922928      138,592</p> <p>98922928      138,592</p> <p>94614640      692,960</p> <p>98922928      138,592</p> <p>6462432      99168,448</p> <p><math>X=54</math>      <math>X=59</math></p> <p>151200      99998,928</p> <p>151200      99998,928</p> <p>151200      99998,928</p> <p>4536008      99996,784</p> <p>151200      99998,928</p> <p>151200      99998,928</p> <p>756000      99994,640</p> <p>151200      99998,928</p> <p>99092800      6,432</p> <p><math>X=64</math>      <math>X=69</math></p> <p>1360      99923,600</p> <p>1360      99923,600</p> <p>1360      99923,600</p> <p>40800      99770,800</p> <p>1360      99923,600</p> <p>1360      99923,600</p> <p>6800      99618,000</p> <p>1360      99923,600</p> <p>99991840      458,400</p> <p><math>X=74</math>      <math>X=79</math></p> <p>10464      99999,168</p> <p>10464      99999,168</p> <p>10464      99999,168</p> <p>31392      99997,504</p> <p>10464      99999,168</p> <p>10464      99999,168</p> <p>52320      99995,840</p> <p>10464      99999,168</p> <p>99937816      4,992</p> <p><math>X=84</math>      <math>X=89</math></p> <p>13888      15856</p> <p>13888      15856</p> <p>13888      15856</p> <p>41664      47,568</p> <p>13888      15856</p> <p>13888      15856</p> <p>69440      75,280</p> <p>13888      15856</p> <p>99916672      99904,864</p> |



ing to equations (80). Hence the leading unit differences for  $T_{99}$  were computed in tape 155 as a check on the work of addition in tapes 158 to 161. In finding the leading quinquennial differences of  $T$  from tapes 148 to 152, it will be noted that 89 is the third age in the fourth group of ages in tape 148 and that it occupies a corresponding position in each of the tapes 149 to 152.

$\Delta^3 T_{99}$  from tape 152 was set up on the computing machine and multiplied by the factors in the second column of equations (80), beginning at the top, and the products were entered upon the adding machine as computed and a space taken; then the last product was added again, giving zero as total, and thus checking these products.

$\Delta^4 T_{99}$  from tape 151 was multiplied by the factors in the third column of equations (80), the products entered upon the adding machine, a space taken, and then the first two products added again, giving zero as total.

$\Delta^5 T_{99}$  from tape 150 was multiplied by the factors in the fourth column of equations (80), the products entered upon the adding machine, and a total taken. This total is three times the central factor.

$\Delta^6 T_{99}$  from tape 149 was multiplied by the factors in the fifth column of equations (80), the products entered upon the adding machine, a space taken, and the first factor added again, giving a total which is ten times the first factor.

Since these four groups of products are in the same order as the factors in equations (80),  $10^4 \delta^4 T_{99}$  is the sum of the two products third from the last in each of the first two groups;  $10^4 \delta^3 T_{99}$  is the sum of the three products second from the last in each of the first three groups;  $10^4 \delta^2 T_{99}$  is the sum of the four products next to the last in each group; and  $10^4 \delta T_{99}$  is the sum of the four products last in each group plus + 2,000 times  $\Delta T_{99}$ , 2,024, in tape 148.

To insure that the leading unit differences of  $T_4$  and  $T_{99}$  are correct, it is well to compare back the products which were copied from the groups at the beginning of tape 154 and tape 155 to obtain these leading unit differences before going on with the next step.

156. The diagrams described in section 158, page 382, are shown here so that the operator may use them in deriving the values in tape 158 from those in tape 157. The ages are  $x=4$ ,  $x=9$ , and  $x=14$ . The column  $x=9$  is put down twice, first to show the addition of its values with those in column  $x=4$ , which is parallel to it, and again just below its first position, to show the addition of its values with those in column  $x=14$ , which is below it on the left side of the tape. The point of junction between the addition of the groups  $x=4$  and  $x=9$  and that of the groups  $x=9$  and  $x=14$  is indicated by the sign  $\oplus$ . The use of these diagrams is explained fully in section 158, especially by Diagram 158, page 382.

157. In Table 115, page 347, attention is called to the fact that the factors of  $\Delta^5 y_n$  and  $\Delta^5 y_{n+1}$  in the equations

for the fifth fractional differences are all multiples of .0016, the other factors being 0, +1, +3, +5, and -6. The values of  $16\Delta^5 T_x$  are given in tape 153, and the products of these values by +1, +3, +5, and -6 were obtained upon the adding machine by repetition, as shown in tape 157. The machine was split between banks 8-9 so that two multiplications could be performed at the same time.

The first value on the left of tape 153, or 98,836,848, is set up in banks 9 to 17, inclusive, and the second value, 231,152, in banks 1 to 6, inclusive; then they are added three times by means of the repeat key and a subtotal taken. Then these two values are set up again, added twice, and a subtotal taken. Finally, they are set up a third time, added once, the machine spaced, and the complements of the two sums appearing through the glass at the base of the machine are added and a total taken. If the complements are correct the totals are zero, and the only figure appearing is the 1 in bank 9. Thus the first subtotal is the product of +3 times the first two values on the left of tape 153; the second subtotal is +5 times these two values; and the complements at the end are -6 times these two values. Then the next two values are operated upon in the same way, and so on until all the  $16\Delta^5 T_x$  on the left of tape 153 have been operated upon.

158. In section 149, where ages in the quinquennial groups 4, 9, 14, 19, and so on, are used instead of ages by single years, it was shown that  $\Delta T_4 + \Delta^2 T_4 = \Delta T_5$ ,

$$\begin{array}{r} 414,281 \\ 999,980,198 \\ \hline \text{or } 394,479; \end{array}$$

in section 150, that  $\Delta^2 T_4 + \Delta^3 T_4 = \Delta^2 T_5$ ,

$$\begin{array}{r} 99,980,198 \\ 30,942 \\ \hline \text{or } 11,140. \end{array}$$

Likewise, in section 151,  $\Delta^3 T_4 + \Delta^4 T_4 = \Delta^3 T_5$ , and in section 152,  $\Delta^4 T_4 + \Delta^5 T_4 = \Delta^4 T_5$ . Then when the age is measured in single years these equations become

$$\begin{aligned} \delta T_4 + \delta^2 T_4 &= \delta T_5 \\ \delta^2 T_4 + \delta^3 T_4 &= \delta^2 T_5 \\ \delta^3 T_4 + \delta^4 T_4 &= \delta^3 T_5 \\ \delta^4 T_4 + \delta^5 T_4 &= \delta^4 T_5 \end{aligned}$$

Making these equations general by using age  $x$  instead of 4 and reversing their order:

$$\begin{aligned} \delta^4 T_x + \delta^5 T_x &= \delta^4 T_{x+1} \\ \delta^3 T_x + \delta^4 T_x &= \delta^3 T_{x+1} \\ \delta^2 T_x + \delta^3 T_x &= \delta^2 T_{x+1} \\ \delta T_x + \delta^2 T_x &= \delta T_{x+1} \end{aligned}$$



CALCULATION OF THE LIFE TABLE FOR MALES IN THE STATE OF NEW YORK: 1910  
PHOTOGRAPHS OF DIAGRAMS AND ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>151</p> <p><math>\Delta^4 T_x</math>    <math>\Delta^4(31)_x</math></p> <p>99935638    997620</p> <p>99932941    996780</p> <p>99947388    596</p> <p>122057    2354</p> <p>99934959    996688</p> <p>19664    1275</p> <p>26571    1246</p> <p>99953002    998074</p> <p>51303    2852</p> <p>99983986    998479</p> <p>99992648    999572</p> <p>2098    999504</p> <p>2031    999758</p> <p>2116    1471</p> <p>99997341    308</p> <p>99997999    1497</p> <p>99997943    999590</p> <p>99996011    999068</p> <p>99995802    999840</p> <p>36 1    56</p>                                                                                                                                                                    | <p>154</p> <p><math>10^4 \delta^4 T_x</math></p> <p>902080</p> <p>999458752</p> <p>1443328</p> <p>998105632</p> <p>902080</p> <p>2475360</p> <p>990098560</p> <p>14852160</p> <p>7426080</p> <p>14852160</p> <p>992079200</p> <p>15841600</p> <p>992079200</p> <p>999458752</p> <p>2475360</p> <p><math>10^4 \delta^4 T_x</math> → 1934112</p> <p>1443328</p> <p>990098560</p> <p>992079200</p> <p><math>10^4 \delta^4 T_x</math> → 983621088</p> <p>998105632</p> <p>14852160</p> <p>15841600</p> <p>828562000</p> <p><math>10^4 \delta^4 T_x</math> → 857361392</p>                                                                                                                                                                  | <p>156</p> <p><math>x=4</math>    <math>x=9</math></p> <p>Begin</p> <p><math>x=8</math></p> <p><math>x=14</math></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p><math>x=34</math>    <math>x=39</math></p> <p>98835696    1560016</p> <p>98835696    1560016</p> <p>98835696    1560016</p> <p>96507088    4680048</p> <p>98835696    1560016</p> <p>98835696    1560016</p> <p>94178480    7800080</p> <p>98835696    1560016</p> <p>6985824    90639904</p> <p><math>x=44</math>    <math>x=49</math></p> <p>98922928    138592</p> <p>98922928    138592</p> <p>98922928    138592</p> <p>96768784    415776</p> <p>98922928    138592</p> <p>98922928    138592</p> <p>94614640    692960</p> <p>98922928    138592</p> <p>6462432    99168448</p> <p><math>x=54</math>    <math>x=59</math></p> <p>151200    99998928</p> <p>151200    99998928</p> <p>151200    99998928</p> <p>453600    99996784</p> <p>151200    99998928</p> <p>151200    99998928</p> <p>756000    99994640</p> <p>151200    99998928</p> <p>99092800    6432</p> <p><math>x=64</math>    <math>x=69</math></p> <p>1360    99923600</p> <p>1360    99923600</p> <p>1360    99923600</p> <p>4080    999770800</p> <p>1360    99923600</p> <p>1360    99923600</p> <p>6800    999618000</p> <p>1360    99923600</p> <p>99991840    458400</p> <p><math>x=74</math>    <math>x=79</math></p> <p>10464    99999168</p> <p>10464    99999168</p> <p>10464    99999168</p> <p>31392    99997504</p> <p>10464    99999168</p> <p>10464    99999168</p> <p>52320    99995840</p> <p>10464    99999168</p> <p>99937216    4992</p> <p><math>x=84</math>    <math>x=89</math></p> <p>13888    15856</p> <p>13888    15856</p> <p>13888    15856</p> <p>41664    47568</p> <p>13888    15856</p> <p>13888    15856</p> <p>69440    79280</p> <p>13888    15856</p> <p>99916678    99904864</p> |
| <p>152</p> <p><math>\Delta^4 T_x</math>    <math>\Delta^4(31)_x</math></p> <p>99987303    999160</p> <p>14447    2816</p> <p>174069    2758</p> <p>99812902    994334</p> <p>64705    4387</p> <p>6907    999971</p> <p>99927231    996828</p> <p>97801    4178</p> <p>99932683    996227</p> <p>8662    1093</p> <p>9450    32</p> <p>99999933    154</p> <p>85    1713</p> <p>99995225    998837</p> <p>654    1189</p> <p>99999948    997893</p> <p>868    999478</p> <p>991    772</p> <p>99994362    2380</p> <p>99994164    2220</p>                                                                                                                                                                                           | <p>155</p> <p><math>10^4 \delta^4 T_x</math></p> <p>999968288</p> <p>999952432</p> <p>47568</p> <p>15856</p> <p>15856</p> <p>999980976</p> <p>999923904</p> <p>999980976</p> <p>209264</p> <p>999980976</p> <p>999923904</p> <p>113840</p> <p>683040</p> <p>1252240</p> <p>2049120</p> <p>999320400</p> <p>994563200</p> <p>999320400</p> <p>993204000</p> <p><math>10^4 \delta^4 T_x</math> → 9999492648</p> <p>999952432</p> <p>999923904</p> <p>113840</p> <p><math>10^4 \delta^4 T_x</math> → 9999901768</p> <p>47568</p> <p>999980976</p> <p>683040</p> <p>999320400</p> <p><math>10^4 \delta^4 T_x</math> → 319848</p> <p>15856</p> <p>209264</p> <p>994563200</p> <p>4048000</p> <p><math>10^4 \delta^4 T_x</math> → 825600</p> | <p>157</p> <p>Multiples of <math>16 \Delta^4 T_x</math></p> <p><math>x=4</math>    <math>x=9</math></p> <p>98836848    231152</p> <p>98836848    231152</p> <p>98836848    231152</p> <p>96510544    693456</p> <p>98836848    231152</p> <p>98836848    231152</p> <p>94184840    1155760</p> <p>98836848    231152</p> <p>6976912    98613088</p> <p><math>x=14</math>    <math>x=19</math></p> <p>2794704    97006432</p> <p>2794704    97006432</p> <p>2794704    97006432</p> <p>8384112    91019296</p> <p>2794704    97006432</p> <p>2794704    97006432</p> <p>13975520    85032160</p> <p>2794704    97006432</p> <p>83231776    17961408</p> <p><math>x=24</math>    <math>x=29</math></p> <p>1355280    110512</p> <p>1355280    110512</p> <p>1355280    110512</p> <p>4065840    331536</p> <p>1355280    110512</p> <p>1355280    110512</p> <p>6776400    552560</p> <p>1355280    110512</p> <p>91868320    99336928</p> | <p><math>x=64</math>    <math>x=69</math></p> <p>1360    99923600</p> <p>1360    99923600</p> <p>1360    99923600</p> <p>4080    999770800</p> <p>1360    99923600</p> <p>1360    99923600</p> <p>6800    999618000</p> <p>1360    99923600</p> <p>99991840    458400</p> <p><math>x=74</math>    <math>x=79</math></p> <p>10464    99999168</p> <p>10464    99999168</p> <p>10464    99999168</p> <p>31392    99997504</p> <p>10464    99999168</p> <p>10464    99999168</p> <p>52320    99995840</p> <p>10464    99999168</p> <p>99937216    4992</p> <p><math>x=84</math>    <math>x=89</math></p> <p>13888    15856</p> <p>13888    15856</p> <p>13888    15856</p> <p>41664    47568</p> <p>13888    15856</p> <p>13888    15856</p> <p>69440    79280</p> <p>13888    15856</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p>153</p> <p><math>16 \Delta^4 T_x</math>    <math>16 \Delta^4(31)_x</math></p> <p>98836848    966568</p> <p>231152    61056</p> <p>2794704    28128</p> <p>97006432    909344</p> <p>1355280    73392</p> <p>224416    58480</p> <p>110512    999536</p> <p>98835696    949248</p> <p>1560016    66848</p> <p>98922928    939632</p> <p>138592    17488</p> <p>99792160    31232</p> <p>151200    512</p> <p>99998928    2464</p> <p>1360    27408</p> <p>99923600    981392</p> <p>10464    19024</p> <p>99877712    62032</p> <p>99999168    966288</p> <p>13888    994848</p> <p>15656    12352</p> <p>99906624    35520</p> <p>99994164    2220</p> <p>99941640    22200</p> <p>99970820    11100</p> <p>99906624    35520</p> | <p>999980976</p> <p>999923904</p> <p>999980976</p> <p>209264</p> <p>999980976</p> <p>999923904</p> <p>113840</p> <p>683040</p> <p>1252240</p> <p>2049120</p> <p>999320400</p> <p>994563200</p> <p>999320400</p> <p>993204000</p> <p><math>10^4 \delta^4 T_x</math> → 9999492648</p> <p>999952432</p> <p>999923904</p> <p>113840</p> <p><math>10^4 \delta^4 T_x</math> → 9999901768</p> <p>47568</p> <p>999980976</p> <p>683040</p> <p>999320400</p> <p><math>10^4 \delta^4 T_x</math> → 319848</p> <p>15856</p> <p>209264</p> <p>994563200</p> <p>4048000</p> <p><math>10^4 \delta^4 T_x</math> → 825600</p>                                                                                                                           | <p>157</p> <p>Multiples of <math>16 \Delta^4 T_x</math></p> <p><math>x=4</math>    <math>x=9</math></p> <p>98836848    231152</p> <p>98836848    231152</p> <p>98836848    231152</p> <p>96510544    693456</p> <p>98836848    231152</p> <p>98836848    231152</p> <p>94184840    1155760</p> <p>98836848    231152</p> <p>6976912    98613088</p> <p><math>x=14</math>    <math>x=19</math></p> <p>2794704    97006432</p> <p>2794704    97006432</p> <p>2794704    97006432</p> <p>8384112    91019296</p> <p>2794704    97006432</p> <p>2794704    97006432</p> <p>13975520    85032160</p> <p>2794704    97006432</p> <p>83231776    17961408</p> <p><math>x=24</math>    <math>x=29</math></p> <p>1355280    110512</p> <p>1355280    110512</p> <p>1355280    110512</p> <p>4065840    331536</p> <p>1355280    110512</p> <p>1355280    110512</p> <p>6776400    552560</p> <p>1355280    110512</p> <p>91868320    99336928</p> | <p><math>x=64</math>    <math>x=69</math></p> <p>1360    99923600</p> <p>1360    99923600</p> <p>1360    99923600</p> <p>4080    999770800</p> <p>1360    99923600</p> <p>1360    99923600</p> <p>6800    999618000</p> <p>1360    99923600</p> <p>99991840    458400</p> <p><math>x=74</math>    <math>x=79</math></p> <p>10464    99999168</p> <p>10464    99999168</p> <p>10464    99999168</p> <p>31392    99997504</p> <p>10464    99999168</p> <p>10464    99999168</p> <p>52320    99995840</p> <p>10464    99999168</p> <p>99937216    4992</p> <p><math>x=84</math>    <math>x=89</math></p> <p>13888    15856</p> <p>13888    15856</p> <p>13888    15856</p> <p>41664    47568</p> <p>13888    15856</p> <p>13888    15856</p> <p>69440    79280</p> <p>13888    15856</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

Since  $\delta^4 T_{x+1} = \delta^4 T_x + \delta^5 T_x$ , the column of  $\delta^4 T_x$  was obtained by continued addition of the successive  $\delta^5 T_x$ , a subtotal being taken after the addition of each unit fifth difference.  $10^4 \delta^4 T_4$ , 90,208, computed in tape 154, begins the column of  $10^4 \delta^4 T_x$  in tape 158 which is derived by continuous addition of the successive values of  $10^4 \delta^5 T_x$ . The remainder of section 158 explains how these successive values of  $10^4 \delta^5 T_x$  are obtained from tape 157. To learn the mechanical processes necessary to obtain tape 158 from tape 157 it is necessary to study only—

- (1) Table 130 in connection with tape 157.
- (2) Diagram 158, page 382, in connection with Table 130 and Diagram 156, page 377.
- (3) Diagram 158 in connection with tape 158.
- (4) Tape 157 in connection with Diagram 156 and tape 158, assuming that tape 157 ends with the ages 94 and 99, for which the products are all zeros, just as those for  $x = 4 - 10$  and  $x = 9 - 10$  in Table 130 were all zeros.

For convenience of reference the right side of Table 115, page 347, is copied with some changes as equations (81). The variable  $T$  is used instead of  $y$ ; the ages  $x - 10$ ,  $x - 5$ ,  $x$ ,  $x + 1$ ,  $x + 2$ , etc., to  $x + 5$ , instead of  $n$ ,  $n + 1$ ,  $n + 2$ ,  $n + 2.2$ ,  $n + 2.4$ , etc., to  $n + 3.0$ , and the fractions eliminated.

Equations (81)

| Unit fifth differences. | $16\Delta^5 T_{x-10}$ | $16\Delta^5 T_{x-5}$ | $16\Delta^5 T_x$ |
|-------------------------|-----------------------|----------------------|------------------|
| $10^4 \delta^5 T_x$     | = +5                  | 0                    |                  |
| $10^4 \delta^5 T_{x+1}$ | = +3                  | +1                   |                  |
| $10^4 \delta^5 T_{x+2}$ | = -6                  | 0                    |                  |
| $10^4 \delta^5 T_{x+3}$ | = 0                   | -6                   |                  |
| $10^4 \delta^5 T_{x+4}$ | = +1                  | +3                   |                  |
| $10^4 \delta^5 T_{x+5}$ | =                     | +5                   | 0                |

Equations (81) give the equations for the unit fifth differences from  $10^4 \delta^5 T_x$  to  $10^4 \delta^5 T_{x+5}$ , which are the five  $10^4 \delta^5 T_x$  necessary to pass from one quinquennial age group to another in the continuous addition in tape 158. The  $16\Delta^5 T_{x-10}$  and  $16\Delta^5 T_{x-5}$ , which will be obtained from tape 157, each head a column in which are written its coefficients in the six equations (81). It will be noted that those two factors are for ages 10 and 5 years younger, respectively, than the quinquennial age group in which the unit fifth differences of this table occur.

According to tape 148 the leading quinquennial differences of  $T$  are for ages 4, 9, 14, and so on. To find the equation for the unit fifth difference of  $T$  at any age, the quinquennial age group in which the age occurs is first noted. For example, in finding the equation for the unit fifth difference of  $T$ , it is first noted that 7 occurs in the quinquennial age group 4-8 and  $7 = 4 + 3$ . Then 4 is substituted for  $x$  in the expressions at the head of columns 2 and 3 in equations (81) and also in the expression  $10^4 \delta^5 T_{x+3}$ , so that

$$10^4 \delta^5 T_{7-4+3} = (0)(16\Delta^5 T_{4-10}) + (-6)(16\Delta^5 T_{4-5-9-10}).$$

Again,

$$10^4 \delta^5 T_{13-10+3} = 10^4 \delta^5 T_{9+4} - (+1)(16\Delta^5 T_{9-10}) + (+3)(16\Delta^5 T_{9-5-4})$$

and

$$10^4 \delta^5 T_{15-12+3} = 10^4 \delta^5 T_{14+1} - (+3)(16\Delta^5 T_{14-10-4}) + (+1)(16\Delta^5 T_{14-5-9}).$$

In order to obtain rapidly the successive  $10^4 \delta^5 T_x$  from the products in tape 157, Table 130 should be studied. The ages are at the top of this table and any number in the table is the product of the  $16\Delta^5 T_x$  whose age  $x$  is at the head of the column and of the corresponding factor on the same line in the first column on the left. The order of these factors in the first column on the left is the same as that of the products in tape 157, the numbers in this table being taken from that tape. Hence, learning to pick out the successive  $10^4 \delta^5 T_x$  from this table will enable one to obtain them rapidly from tape 157.

Table 130

| PRODUCTS OF $16\Delta^5 T_x$ FOR $x = 4 - 10$ , $9 - 10$ , $4$ , $9$ , $14$ , AND $19$ , BY THE FACTORS $+1$ , $+3$ , $+5$ , AND $-6$ . |                                                    |              |          |          |          |          |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|--------------|----------|----------|----------|----------|
| FACTORS.                                                                                                                                | PRODUCTS OF $16\Delta^5 T_x$ COPIED FROM TAPE 157. |              |          |          |          |          |
|                                                                                                                                         | $x = 4 - 10$                                       | $x = 9 - 10$ | $x = 4$  | $x = 9$  | $x = 14$ | $x = 19$ |
| +1                                                                                                                                      | 0                                                  | 0            | 98836848 | 231152   | 2794704  | 97006432 |
| +3                                                                                                                                      | 0                                                  | 0            | 96510544 | 693456   | 8384112  | 91019296 |
| +5                                                                                                                                      | 0                                                  | 0            | 94184240 | 1155760  | 13973520 | 83032160 |
| -6                                                                                                                                      | 0                                                  | 0            | 6978912  | 98013088 | 83231776 | 17961408 |

NOTE.—The age is at the head of the column in which the product occurs, while the other factor is in the first column of Table 130 on the same line with the product.

Since the interpolated values of  $T$  from ages 4 to 13 were determined from a constant fourth difference formula according to section 116, page 347, the fifth unit differences from ages 4 to 9, both inclusive, must be zero, or, in other words, the fourth unit differences from ages 4 to 10, both inclusive, are constant. In Table 130 this fact is indicated by two columns of zeros corresponding to the ages 4-10 and 9-10. These ages are used because from equations (81) it will be seen that the fifth unit differences from  $10^4 \delta^5 T_4$  to  $10^4 \delta^5 T_{8-4+4}$  would be obtained from  $16\Delta^5 T_{4-10}$  and  $16\Delta^5 T_{4-5-9-10}$ , which equal zero, according to Table 130. Hence all these five unit fifth differences are equal to zero. The equations and values for the unit fifth differences of  $T_x$  for ages 9 to 14 are shown in Table 131.

On the left side of Table 131, under the caption "From equations (81)," are shown equations (81) with 9 substituted for  $x$ . On the right side, under the caption "From Table 130," are the products from Table 130 which correspond to the two members on the right side of each of these equations. Thus

$$10^4 \delta^5 T_9 = +5(16\Delta^5 T_{9-10}) + 0(16\Delta^5 T_{9-5-4})$$

according to equations (81) and

$$= 0 + 0$$

according to Table 130.

## 381

|     |                                   |                               |                           |     |                         |                            |                           |
|-----|-----------------------------------|-------------------------------|---------------------------|-----|-------------------------|----------------------------|---------------------------|
| 158 | 10's T <sub>x</sub>               | 646150#<br>331336<br>98833696 | 26758#<br>9998928<br>4080 | 159 | 10's T <sub>x</sub>     | 434176#<br>998406784       | 473440#<br>35376          |
|     | 90208                             | 99813592#<br>99136928         | 29776#<br>6800            |     | 1934112<br>90208        | 15998840960#<br>93600      | 512016#<br>999964236      |
|     | 90208                             | 99130320#<br>698824           | 36576#<br>99923600        |     | 2024320#<br>90208       | 15998934560#<br>646160     | 476272#<br>999956036      |
|     | 90208                             | 6116144#<br>110512            | 99964256#<br>99991840     |     | 2114528#<br>90208       | 15999380720#<br>999813392  | 432368#<br>414496         |
|     | 90208                             | 96307088                      | 99956096#<br>438400       |     | 2204736#<br>90208       | 16999394112#<br>999130320  | 846864#<br>186636         |
|     | 98836848                          | 2753744#<br>94178480          | 414496#<br>11360          |     | 2294944#<br>90208       | 17998544432#<br>6136144    | 1033520#<br>999804636     |
|     | 98927056#                         | 96507088#<br>1360016          | 186636#<br>99618000       |     | 2385152#<br>90208       | 184680576#<br>2733744      | 838176#<br>999585920      |
|     | 98927056#<br>6978912              | 219499328#<br>6985824         | 99804656#<br>99770800     |     | 2475360#<br>90208       | 187434320#<br>996932224    | 424096#<br>44320          |
|     | 13905968#<br>96310544             | 229623056#<br>98835696        | 99585920#<br>438400       |     | 2565568#<br>998927056   | 194366544#<br>994999328    | 468416#<br>999981336      |
|     | 22415512#<br>94184240             | 296140800#<br>7800080         | 44320#<br>99937216        |     | 26600752#<br>998927056  | 19999363872#<br>1988152    | 449952#<br>999936528      |
|     | 296600752#<br>96310544<br>231152  | 296140800#<br>7800080         | 99981536#<br>99923600     |     | 2733744#<br>998927056   | 209993976080#<br>996140800 | 375328#<br>19408          |
|     | 993342448#<br>6978912             | 296140800#<br>7800080         | 99923600#<br>31392        |     | 419680#<br>5903948      | 21990116880#<br>3940880    | 394736#<br>999956624      |
|     | 321360#<br>98613088               | 296140800#<br>7800080         | 99936528#<br>52320        |     | 6325648#<br>8416312     | 21994057760#<br>7543856    | 351360#<br>999961616      |
|     | 98934448#<br>98835848<br>693456   | 296140800#<br>7800080         | 99988848#<br>11392        |     | 8742160#<br>99600752    | 221601616#<br>998183760    | 312976#<br>999969584      |
|     | 96464752#<br>1155760              | 296140800#<br>7800080         | 9999168#<br>99997804      |     | 5342912#<br>993342448   | 28999785376#<br>4646192    | 282560#<br>999963424      |
|     | 99620512#<br>693456<br>2794704    | 296140800#<br>7800080         | 99997804#<br>99997804     |     | 998685360#<br>321360    | 234431568#<br>2974992      | 247984#<br>999976816      |
|     | 3108672#<br>98613088              | 296140800#<br>7800080         | 99997804#<br>99997804     |     | 999006720#<br>998934448 | 247406860#<br>997589632    | 224800#<br>999981808      |
|     | 1721760#<br>83231776              | 296140800#<br>7800080         | 99997804#<br>99997804     |     | 997941168#<br>998464752 | 244996192#<br>994497008    | 206608#<br>999898480      |
|     | 84933536#<br>231152<br>8304112    | 296140800#<br>7800080         | 99997804#<br>99997804     |     | 996405920#<br>99620512  | 24999493200#<br>99940      | 103088#<br>999933312      |
|     | 93568800#<br>13973520             | 296140800#<br>7800080         | 99997804#<br>99997804     |     | 996026432#<br>3108672   | 25452640#<br>127888        | 44400#<br>8752            |
|     | 7542320#<br>8304112<br>97006432   | 296140800#<br>7800080         | 99997804#<br>99997804     |     | 999135104#<br>1721760   | 25580528#<br>999466592     | 53152#<br>66272           |
|     | 012932864#<br>83231776            | 296140800#<br>7800080         | 99997804#<br>99997804     |     | 856864#<br>984953536    | 2647120#<br>189552         | 119424#<br>999982944      |
|     | 99614640#<br>17961408             | 296140800#<br>7800080         | 99997804#<br>99997804     |     | 985810400#<br>993368800 | 26206672#<br>726528        | 102368#<br>999887808      |
|     | 14126048#<br>2794704<br>91019296  | 296140800#<br>7800080         | 99997804#<br>99997804     |     | 9979379200#<br>7542320  | 26933200#<br>999894976     | 9999920176#<br>9999949264 |
|     | 17940048#<br>85032160             | 296140800#<br>7800080         | 99997804#<br>99997804     |     | 986921520#<br>12932864  | 27825176#<br>998987776     | 9999939440#<br>28544      |
|     | 192972208#<br>91019296<br>1353280 | 296140800#<br>7800080         | 99997804#<br>99997804     |     | 995815384#<br>          |                            |                           |

Table 131

| UNIT FIFTH DIFFERENCES OF $T_x$ FROM AGES 9 TO 14 IN TERMS OF $16\Delta^5T_{x-10}$ AND $16\Delta^5T_{x-5}$ . |                      |                     |   |                 |       |          |
|--------------------------------------------------------------------------------------------------------------|----------------------|---------------------|---|-----------------|-------|----------|
| FROM EQUATIONS (81).                                                                                         |                      |                     |   | FROM TABLE 130. |       |          |
| Unit fifth differences.                                                                                      | $16\Delta^5T_{x-10}$ | $16\Delta^5T_{x-5}$ |   | $x=9-10$        | $x=4$ |          |
| $10^4\delta^5T_9$                                                                                            | -                    | +5                  | + | 0               | -     | 0        |
| $10^4\delta^5T_{10=9+1}$                                                                                     | -                    | +3                  | + | +1              | -     | 0        |
| $10^4\delta^5T_{11=9+2}$                                                                                     | -                    | -6                  | + | 0               | -     | 0        |
| $10^4\delta^5T_{12=9+3}$                                                                                     | -                    | 0                   | + | -6              | -     | 0        |
| $10^4\delta^5T_{13=9+4}$                                                                                     | -                    | +1                  | + | +3              | -     | 0        |
| $10^4\delta^5T_{14=9+5}$                                                                                     | -                    |                     |   | +5              | -     |          |
|                                                                                                              |                      |                     |   |                 |       | 94184240 |

This last value,  $10^4\delta^5T_{14}$ , might have been derived with the following five ages in Table 132, in which are given the equations and values for the single years 14 to 19:

Table 132

| UNIT FIFTH DIFFERENCES OF $T_x$ FROM AGES 14 TO 19 IN TERMS OF $16\Delta^5T_4$ AND $16\Delta^5T_9$ . |                         |                        |   |                 |       |         |
|------------------------------------------------------------------------------------------------------|-------------------------|------------------------|---|-----------------|-------|---------|
| FROM EQUATIONS (81).                                                                                 |                         |                        |   | FROM TABLE 130. |       |         |
| Unit fifth differences.                                                                              | $16\Delta^5T_{14-10=4}$ | $16\Delta^5T_{14-5=9}$ |   | $x=4$           | $x=9$ |         |
| $10^4\delta^5T_{14}$                                                                                 | -                       | +5                     | + | 0               | -     | 0       |
| $10^4\delta^5T_{15=14+1}$                                                                            | -                       | +3                     | + | +1              | -     | 0       |
| $10^4\delta^5T_{16=14+2}$                                                                            | -                       | -6                     | + | 0               | -     | 0       |
| $10^4\delta^5T_{17=14+3}$                                                                            | -                       | 0                      | + | -6              | -     | 0       |
| $10^4\delta^5T_{18=14+4}$                                                                            | -                       | +1                     | + | +3              | -     | 0       |
| $10^4\delta^5T_{19=14+5}$                                                                            | -                       |                        |   | +5              | -     |         |
|                                                                                                      |                         |                        |   |                 |       | 1155760 |

In Table 133 the part from equations (81) is omitted, since it varies only in the ages of the  $16\Delta^5T_x$  and  $10^4\delta^5T_x$ . Also the first age is 20 = 19 + 1 instead of 19. On the left of Table 133,  $10^4\delta^5T_x$  from ages 20 to 24 requires  $16\Delta^5T_{10-10=0}$  and  $16\Delta^5T_{10-5=5}$ , while on the

right  $10^4\delta^5T_x$  from ages 25 to 29 requires  $16\Delta^5T_{24-10=14}$  and  $16\Delta^5T_{24-5=19}$ . Hence only the part from Table 130 is set down in Table 133.

Table 133

| UNIT FIFTH DIFFERENCES OF $T_x$ FROM AGES 20 TO 29 IN TERMS OF $16\Delta^5T_y$ , FOR $y$ EQUALS 9, 14, AND 19. |                         |          |                           |                         |    |          |
|----------------------------------------------------------------------------------------------------------------|-------------------------|----------|---------------------------|-------------------------|----|----------|
| Ages of $10^4\delta^5T_x$                                                                                      | Ages of $16\Delta^5T_y$ |          | Ages of $10^4\delta^5T_x$ | Ages of $16\Delta^5T_y$ |    |          |
|                                                                                                                | 9                       | 14       |                           | 14                      | 19 |          |
| 20 = 19 + 1                                                                                                    | -                       | 693456   | +                         | 2794704                 |    |          |
| 21 = 19 + 2                                                                                                    | -                       | 98613088 | +                         | 0                       |    |          |
| 22 = 19 + 3                                                                                                    | -                       | 0        | +                         | 83231776                |    |          |
| 23 = 19 + 4                                                                                                    | -                       | 231152   | +                         | 8381112                 |    |          |
| 24 = 19 + 5                                                                                                    | -                       |          |                           | 13973520                |    |          |
| 25 = 24 + 1                                                                                                    | -                       |          |                           | 8381112                 | +  | 97006432 |
| 26 = 24 + 2                                                                                                    | -                       |          |                           | 83231776                | +  | 0        |
| 27 = 24 + 3                                                                                                    | -                       |          |                           | 0                       | +  | 17961408 |
| 28 = 24 + 4                                                                                                    | -                       |          |                           | 2794704                 | +  | 91019296 |
| 29 = 24 + 5                                                                                                    | -                       |          |                           |                         |    | 85032180 |

If, in picking out the values in the columns headed 9-10, 4, 9, 14, and 19 in Table 130 which are required in Tables 131, 132, and 133, one were to trace with a pencil from one value to another in Table 130 as they are selected, a certain symmetry in the tracing would be found. This tracing for the columns headed 4-10, 9-10, 4, 9, and 14 is shown in Diagram 158.

While nominally each of the five successive  $10^4\delta^5T_x$  in Tables 131 to 133 is the sum of two terms, three of them contain zero as one term. From equations (81)

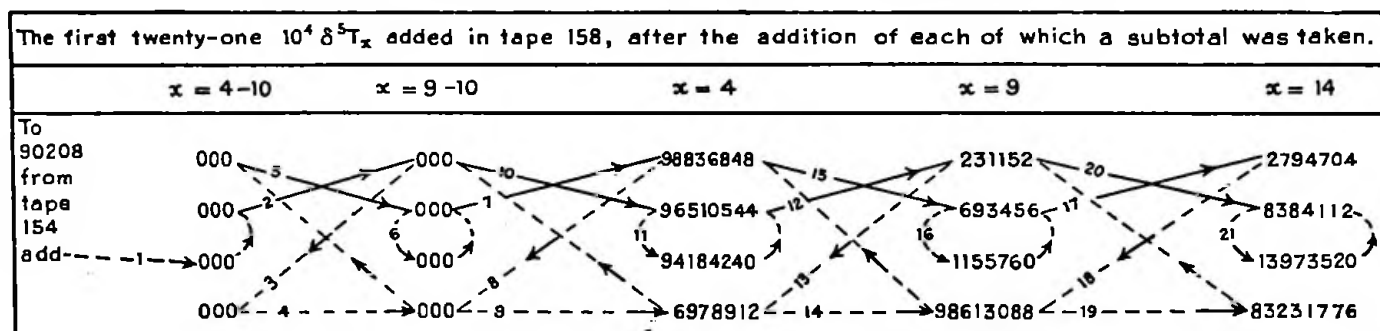
$$10^4\delta^5T_{x+1} = +3(16\Delta^5T_{x-10}) + 1(16\Delta^5T_{x-5}),$$

while

$$10^4\delta^5T_{x+4} = +1(16\Delta^5T_{x-10}) + 3(16\Delta^5T_{x-5}).$$

From Tables 131, 132, and 133 it is apparent that the sum of the two terms, either of  $10^4\delta^5T_{x+1}$  or of  $10^4\delta^5T_{x+4}$ , can not be obtained readily by mental addition. Accordingly, in place of their sum, both terms were entered upon the adding machine before a subtotal was taken. Where two products must both be added before taking a subtotal, they are connected by solid lines in Diagram 158; the rest of the tracing is dotted lines.

Diagram 158.—OUTLINE TO SHOW METHOD OF DERIVING TAPE 158 FROM TAPE 157.



In making tape 158 it will be noted that a subtotal, marked by  $s$ , is taken after the addition of each  $10^4\delta^5T_x$ , or of each unit fifth difference. These unit fifth differences are numbered in Diagram 158 by small figures in breaks in the connecting lines. Then in tape 158 subtotals are taken, even when only zeros are added. Hence, after the 90,208 from tape 154 was entered upon the adding machine according to instructions on the left of Diagram 158, it was subtotaled six times to indicate the addition of six zeros from the columns  $x=4-10$  and  $x=9-10$ .

The seventh unit fifth difference is the sum of a zero in column  $x=9-10$  and 98,836,848 from column  $x=4$ , while the eighth unit fifth difference is zero from column  $x=9-10$ . In tape 158 it will be noted that the addition of this last zero is indicated by taking two subtotals after the addition of 98,836,848. The ninth unit fifth difference is 6,978,912 from column  $x=4$ , while the tenth unit fifth difference is the sum of zero from column  $x=9-10$  and 96,510,544 from column  $x=4$ . The eleventh unit fifth difference is 94,184,240 from the column  $x=4$ , while the twelfth

|                       |           |            |                       |            |            |
|-----------------------|-----------|------------|-----------------------|------------|------------|
| 158                   |           |            |                       | 159        |            |
| 10° 4' T <sub>x</sub> | 646.160   | 26.768     | 10° 6' T <sub>x</sub> | 434.176    | 475.440    |
| 90200                 | 331.536   | 99992.920  | 998406.784            | 998406.784 | 365.576    |
| 90208                 | 96235.696 | 4.660      | 998884.060            | 998884.060 | 512.016    |
| 90208                 | 99813.392 | 29.776     | 93600                 | 998934.560 | 999964.256 |
| 90208                 | 99336.928 | 4.000      | 646.160               | 999580.720 | 476.272    |
| 90208                 | 99150.320 | 36.576     | 999813.322            | 999813.322 | 999956.096 |
| 90208                 | 6865.824  | 4.000      | 999594.112            | 999594.112 | 432.368    |
| 90208                 | 6136.144  | 99923.500  | 999150.320            | 999150.320 | 414.496    |
| 90208                 | 1105.12   | 999564.256 | 999554.432            | 999554.432 | 846.864    |
| 90208                 | 96507.056 | 999910.400 | 6136.144              | 6136.144   | 166.656    |
| 98836.840             | 2755.744  | 99956.096  | 2204.736              | 2204.736   | 1033.520   |
| 98927.056             | 94178.480 | 453.430    | 90208                 | 90208      | 999004.036 |
| 98927.056             | 96532.324 | 414.496    | 2114.528              | 2114.528   | 332.176    |
| 6976.912              | 96507.080 | 1.360      | 90208                 | 90208      | 999585.920 |
| 9905.968              | 1568.016  | 99770.300  | 2254.944              | 2254.944   | 424.096    |
| 96510.544             | 94999.328 | 160.056    | 90200                 | 90200      | 44.320     |
| 2416.512              | 6865.324  | 999304.656 | 2365.152              | 2365.152   | 468.416    |
| 9418.240              | 1981.156  | 99770.300  | 90208                 | 90208      | 999981.536 |
| 66600.752             | 90639.904 | 99770.300  | 2475.360              | 2475.360   | 449.952    |
| 96510.544             | 96625.056 | 10.464     | 90208                 | 90208      | 999936.528 |
| 331.152               | 96835.696 | 99585.920  | 2565.560              | 2565.560   | 366.460    |
| 93342.448             | 2680.040  | 452.400    | 999527.056            | 999527.056 | 999928.848 |
| 6976.912              | 56140.300 | 4.320      | 1492.624              | 1492.624   | 375.328    |
| 3213.600              | 7800.060  | 99937.216  | 99927.056             | 99927.056  | 19.408     |
| 96613.088             | 3940.880  | 99951.536  | 419.680               | 419.680    | 394.736    |
| 98934.448             | 460.040   | 99923.500  | 9901.960              | 9901.960   | 999956.624 |
| 98036.948             | 98922.928 | 31.552     | 6325.640              | 6325.640   | 351.360    |
| 693.456               | 7543.856  | 999536.520 | 2416.512              | 2416.512   | 999961.616 |
| 96464.752             | 96639.904 | 52.320     | 6742.160              | 6742.160   | 312.976    |
| 1155.760              | 98183.760 | 99983.040  | 99600.752             | 99600.752  | 999969.564 |
| 98620.512             | 6462.432  | 31.592     | 5342.912              | 5342.912   | 262.560    |
| 693.456               | 4646.192  | 99999.168  | 99334.248             | 99334.248  | 85965.424  |
| 2744.704              | 1600.016  | 18.408     | 99668.536             | 99668.536  | 247.984    |
| 3108.672              | 96768.764 | 99937.216  | 321.360               | 321.360    | 999976.816 |
| 98613.088             | 2974.992  | 99996.624  | 99900.720             | 99900.720  | 224.800    |
| 1721.760              | 9461.464  | 4.992      | 998934.448            | 998934.448 | 999981.808 |
| 03231.776             | 97589.632 | 99961.616  | 999541.160            | 999541.160 | 206.608    |
| 84955.536             | 96768.764 | 10.464     | 996464.752            | 996464.752 | 999992.200 |
| 231.152               | 132.592   | 99997.504  | 996405.920            | 996405.920 | 999992.200 |
| 6364.112              | 94497.008 | 99999.040  | 996205.512            | 996205.512 | 452.640    |
| 93568.000             | 6462.432  | 99965.424  | 996026.432            | 996026.432 | 127.688    |
| 13973.920             | 99160.448 | 99957.504  | 3108.672              | 3108.672   | 500.528    |
| 7542.320              | 127.888   | 13.860     | 999135.104            | 999135.104 | 999464.592 |
| 6364.112              | 98922.928 | 4.992      | 1721.760              | 1721.760   | 47.120     |
| 97006.432             | 415.776   | 99981.308  | 856.864               | 856.864    | 159.552    |
| 12932.864             | 99464.592 | 99951.608  | 964553.536            | 964553.536 | 206.672    |
| 63231.776             | 692.960   | 99916.672  | 965810.400            | 965810.400 | 726.528    |
| 96164.640             | 159.552   | 99995.168  | 999                   |            |            |

## UNITED STATES LIFE TABLES.

CALCULATION OF THE LIFE TABLE FOR MALES IN THE STATE OF NEW YORK: 1910  
 PHOTOGRAPHS OF ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS

| 160         |                                |            | 161         |                                |            |
|-------------|--------------------------------|------------|-------------|--------------------------------|------------|
|             | 10 <sup>6</sup> T <sub>x</sub> |            |             | 10 <sup>6</sup> T <sub>x</sub> |            |
| 983521.088  | 977376.560                     | 991343.040 | 857361.392  | 697134.848                     | 72873.200  |
| 1934.112    | 998840.960                     | 512.016    | 983621.088  | 977376.560                     | 991343.040 |
| 988555.200  | 976217.520                     | 991855.056 | 840982.480  | 674511.400                     | 64216.240  |
| 2024.320    | 998934.560                     | 476.272    | 983555.200  | 976217.520                     | 991955.056 |
| 987578.520  | 974732.800                     | 992331.328 | 826537.680  | 650728.928                     | 56071.296  |
| 2114.520    | 999394.112                     | 432.368    | 987578.520  | 975152.080                     | 992331.328 |
| 969694.048  | 974126.912                     | 992763.696 | 814117.200  | 625881.008                     | 48402.624  |
| 2204.736    | 998544.432                     | 846.864    | 989694.048  | 974732.800                     | 992763.696 |
| 991896.784  | 972671.344                     | 993610.560 | 803811.248  | 600613.800                     | 41166.320  |
| 2294.944    | 997351.920                     | 1033.520   | 991896.784  | 974126.912                     | 993610.560 |
| 994193.728  | 971735.120                     | 994644.080 | 795710.032  | 574740.720                     | 34776.880  |
| 2385.152    | 9984786.240                    | 838.176    | 994193.728  | 972671.344                     | 994644.080 |
| 996578.880  | 4366.544                       | 995482.256 | 789903.760  | 547412.064                     | 29420.960  |
| 2475.360    | 1989152.784                    | 424.096    | 996578.880  | 977351.920                     | 995482.256 |
| 999054.240  | 999365.872                     | 996374.768 | 786482.640  | 524763.984                     | 24903.216  |
| 2565.568    | 2988518.656                    | 449.952    | 999054.240  | 984786.240                     | 995906.352 |
| 1619.808    | 1351.024                       | 996824.720 | 785536.880  | 509550.224                     | 20809.568  |
| 1492.624    | 2989869.680                    | 386.480    | 1619.808    | 989152.784                     | 996374.768 |
| 3112.432    | 993976.080                     | 997211.200 | 787156.688  | 498703.008                     | 17184.336  |
| 419.680     | 9983845.760                    | 375.328    | 3112.432    | 988518.656                     | 17184.336  |
| 3532.112    | 990116.880                     | 997586.528 | 790269.120  | 487221.664                     | 14009.056  |
| 6325.648    | 973962.640                     | 394.736    | 3532.112    | 989869.680                     | 997211.200 |
| 9877.760    | 994057.760                     | 997981.264 | 795380.1232 | 477091.344                     | 11220.256  |
| 8742.160    | 968020.400                     | 351.360    | 9857.760    | 983845.760                     | 997586.528 |
| 18599.920   | 1601.616                       | 998332.624 | 803658.992  | 460937.104                     | 8806.724   |
| 5342.912    | 969622.016                     | 312.976    | 18599.920   | 973962.640                     | 997901.264 |
| 23842.832   | 999785.376                     | 998643.600 | 822258.912  | 434899.744                     | 6708.048   |
| 998685.360  | 969407.392                     | 282.560    | 23942.832   | 968020.400                     | 998332.624 |
| 22628.192   | 4431.568                       | 998928.160 | 824620.1744 | 402920.144                     | 5120.672   |
| 999006.720  | 973838.960                     | 247.984    | 22628.192   | 969622.016                     | 998643.600 |
| 21634.912   | 7404.560                       | 999176.144 | 826828.192  | 372542.160                     | 3766.272   |
| 997941.168  | 981245.520                     | 224.800    | 826828.192  | 969407.392                     | 998928.160 |
| 19576.080   | 4996.192                       | 999400.944 | 824620.1744 | 341949.552                     | 2694.432   |
| 996405.920  | 986241.712                     | 206.608    | 22628.192   | 973838.960                     | 999176.144 |
| 18982.006   | 999493.200                     | 999607.552 | 826828.192  | 315788.512                     | 1870.576   |
| 996026.432  | 988734.912                     | 105.088    | 826828.192  | 981245.520                     | 999400.944 |
| 12008.432   | 452.640                        | 999712.640 | 824620.1744 | 297034.032                     | 1271.520   |
| 999135.104  | 986167.552                     | 44.400     | 22628.192   | 986241.712                     | 999607.552 |
| 11143.536   | 580.528                        | 999757.040 | 826828.192  | 283373.744                     | 879.072    |
| 856.864     | 986768.080                     | 53.152     | 826828.192  | 985734.912                     | 999712.640 |
| 12000.400   | 47.120                         | 999810.192 | 824620.1744 | 269010.656                     | 591.712    |
| 985810.400  | 986815.200                     | 119.424    | 22628.192   | 986187.552                     | 999757.040 |
| 997810.800  | 206.672                        | 999929.616 | 826828.192  | 255198.208                     | 348.752    |
| 979379.200  | 987021.872                     | 102.368    | 826828.192  | 986768.080                     | 999810.192 |
| 977190.000  | 931.200                        | 31.984     | 824620.1744 | 241966.288                     | 158.944    |
| 986921.520  | 987955.072                     | 999990.176 | 22628.192   | 986815.200                     | 999929.616 |
| 964111.520  | 828.176                        | 22.160     | 826828.192  | 228781.488                     | 88.560     |
| 999854.384  | 988783.248                     | 999939.440 | 826828.192  | 987021.872                     | 88.560     |
| 9963965.904 | 999815.952                     | 999996.160 | 824620.1744 | 215803.360                     | 120.544    |
| 996019.024  | 999599.200                     | 999967.984 | 22628.192   | 987955.072                     | 22.160     |
| 1999984.928 | 999395.920                     | 999929.584 | 826828.192  | 203758.432                     | 142.704    |
| 10145.072   | 999731.888                     | 44.096     | 826828.192  | 988783.248                     | 999961.600 |
| 1970130.000 | 999995.120                     | 999997.368 | 824620.1744 | 192541.680                     | 104.304    |
| 18085.120   | 999731.888                     | 25.072     | 22628.192   | 988599.200                     | 999929.584 |
| 1988215.120 | 999731.888                     | 999998.752 | 826828.192  | 181140.880                     | 33.888     |
| 11057.328   | 999731.888                     | 6.048      | 826828.192  | 987995.120                     | 999973.680 |
| 1999272.448 | 999731.888                     | 4.800      | 824620.1744 | 169136.000                     | 7.568      |
| 996404.112  | 999731.888                     | 2.880      | 22628.192   | 987727.008                     | 999998.752 |
| 2995676.560 | 999731.888                     | 7.680      | 826828.192  | 156863.008                     | 6.320      |
| 999712.304  | 999731.888                     | 999999.712 | 826828.192  | 988247.392                     | 4.800      |
| 999388.864  | 999731.888                     | 7.392      | 824620.1744 | 145110.400                     | 1.120      |
| 994888.816  | 999731.888                     | 999996.544 | 22628.192   | 988649.072                     | 7.680      |
| 990277.680  | 999731.888                     | 3.936      | 826828.192  | 133739.472                     | 18.800     |
| 991137.600  | 999731.888                     | 999993.376 | 826828.192  | 988938.480                     | 7.392      |
| 9981415.280 | 999731.888                     | 999997.312 | 824620.1744 | 122697.952                     | 26.192     |
| 994162.784  | 999731.888                     | 999990.208 | 22628.192   | 989263.600                     | 3.936      |
| 975578.064  | 999731.888                     | 999987.520 | 826828.192  | 111961.582                     | 3.0128     |
| 1364.320    | 999731.888                     | 999987.040 | 826828.192  | 989619.072                     | 999997.312 |
| 976942.384  | 999731.888                     | 999987.560 | 824620.1744 | 101580.624                     | 27.440     |
| 434.176     | 999731.888                     | 999988.872 | 22628.192   | 990003.040                     | 999987.520 |
| 977376.560  | 999731.888                     | 999958.432 | 826828.192  | 91583.664                      | 14.960     |
|             |                                |            | 2697134.848 | 990421.936                     | 999974.560 |
|             |                                |            |             | 82005.600                      | 999989.520 |
|             |                                |            |             | 990867.600                     | 999958.432 |
|             |                                |            |             | 72873.200                      | 999947.952 |

[illegible]



unit fifth difference takes 96,510,544 from that column and 231,152 from column  $x=9$ .

The above process was repeated until all the products in tape 157, including two columns of zeros for ages  $x=94$  and  $x=99$ , just beyond ages  $x=84$  and  $x=89$ , had been used. Because of these two columns of zeros the subtotal after the addition of  $+1(16\Delta^5T_{89})$ , or 15,856, and  $+3(16\Delta^5T_{94})$ , or 0, was repeated seven times altogether, indicating that the unit fourth difference for ages 90 to 96, both inclusive, is a constant, or that  $T_x$  for ages 90 to 99, both inclusive, were derived from a constant fourth difference formula.

⊙ marks  $10^4\delta^5T_{99}$ , which appears just before  $10^4\delta^5T_{99}$  or  $10^4\delta^5T_{94+5}$  is added, and also ⊙ marks the first unit fourth difference in tape 155, to show that values of  $10^4\delta^5T_{99}$  obtained by the two methods are identical.  $10^4\delta^5T_{99}$ , according to the first of equations (81) on page 380, is  $+5$  in  $x=89$  in tape 157; hence  $10^4\delta^5T_{99}$  appears just before it is added, or just above 79,280. The agreement of these two values marked ⊙ is a check on all the additions thus far.

159. The first quantity in tape 158 and all the subtotals which follow it form the  $10^4\delta^5T_x$  which are needed to build up the  $10^4\delta^5T_x$  in tape 159. Hence, starting with  $10^4\delta^5T_4$  from tape 154, or 1,934,112, the fourth unit difference, 90,208, is added seven times from tape 158, a subtotal being taken after each addition; then 98,927,056 is added and a subtotal taken, and so on until all the subtotals and the total in tape 158 are added. In order to carry the extra unit, obtained in subtracting by adding complements, one bank farther to the left, another 9 was set down in bank 9 of tape 159 before all subtotals in tape 158 that had 9 in bank 8.

⊙ marks  $10^4\delta^5T_{99}$  in tape 159 and also in tape 155, showing that the results by the two processes agree, and thus checking the values in tape 159 up to this point. As  $10^4\delta^5T_{99}$  appears just before the addition of  $10^4\delta^5T_{99}$ , so  $10^4\delta^5T_{99}$  appears just above the addition of  $10^4\delta^5T_{99}$ , or 99,949,264, which is marked with ⊙ in tape 158.

160. In the same way  $10^4\delta^5T_x$  is built by starting with  $10^4\delta^5T_4$  from tape 154, or 983,621,088, and adding  $10^4\delta^5T_4$ , or 1,934,112, at the beginning of tape 159, and taking a subtotal. Then the first subtotal in tape 159, or 2,024,320, is added and a subtotal taken, and so on until all the subtotals and the total in tape 159 are added.  $10^4\delta^5T_{99}$  is marked by ⊙, and it agrees with the value obtained in tape 155.  $10^4\delta^5T_{99}$  is easily found, since it is the subtotal just above the addition of  $10^4\delta^5T_{99}$  which is marked ⊙ in tape 159.

161. In the same way  $10^4\delta^5T_x$  is built up by starting with 857,361,392 from tape 154 and adding the  $10^4\delta^5T_x$  from tape 160. The value for age 99 is marked by ⊙, and is found to agree with the value obtained in tape 155.

162-168. The additions for the deaths are performed in exactly the same way as the additions for the populations in tapes 154 to 161. It was found convenient when copying the subtotals from the tape to throw it over a rack just back of the machine and use both hands in running the machine. However, the arrangement in tapes 162 and 163 is slightly different from that in tapes 154 and 155, since the products of the leading quinquennial differences of  $(3l)_4$  by the factors in equations (79) on page 376 are shown on the left of tape 162 and the leading unit differences of  $(3l)_4$  are shown on the left of tape 163, while the products of the leading quinquennial differences  $(3l)_{99}$  by the factors in equations (80) on page 376 and the leading unit differences of  $(3l)_{99}$  are shown on the right of tapes 162 and 163, respectively.

169. The  $\delta T_x$  or  $L_x$  determined in tape 161 are all as of 1910-July-1, while the deaths,  $\delta l_x$  or  $d_x$ , are for the three-year period 1909-1911. Hence they are written  $(3d)_x$ . In order to determine  $q_x = d_x / (L_x + .5d_x)$ , it was found convenient to write this formula  $q_x = (3d)_x / (3L_x + 1.5d_x)$ . The  $(3d)_x$  are not all divisible by 3 exactly; hence approximate values of  $d_x$  would have to be used if  $q_x$  were computed from the first form of the equation. Also it was found that  $3L_x$  could be computed more quickly and accurately than  $\frac{1}{2}(3d)_x$ , for  $L_x$ , or  $10^4\delta^5T_x$  from tape 161, was set up on the adding machine and repeated three times by means of the repeat key; then to this was added  $\frac{1}{2}(3d)_x$ , or  $\frac{1}{2}$  of  $10^4\delta^5(3l)_x$  from tape 168. This operation is shown in tape 169.

First the tapes 161 and 168 were laid off in groups of five with a pencil, as indicated on the tape. Then these two tapes were pinned together so that corresponding ages stood exactly opposite each other, and both tapes were placed over the rack at the back of the adding machine. In this way one could easily set up the consecutive  $L_x$  and add to each  $3L_x$  one-half the  $(3d)_x$  for the same age. This division was performed mentally. In tape 169 this process is shown for only ten ages.

Since in determining the rate of mortality at any age the number of deaths in tape 168 is the dividend and the number exposed to risk of death in tape 169 is the divisor, and both are carried to four places of decimals, no further attention need be given their places of decimals. While  $10^4$  appears at the head of tapes 170, 171, and 172, it is not used in describing these tapes.

170. The tape 169 was then marked off in groups of fives with a pencil, and the sums of  $3L_x + 1.5d_x = 3l_x$  were added in groups of five. Only two of these groups are shown in tape 170.

171. As a check on the work determining  $3l_x$  and also on all the work by osculatory interpolation up to this point,  $3\Delta T_x + 1.5\Delta(3l)_x$  was found for each of the ages shown in tape 148. Each sum in tape 170 is marked with a numeral surrounded by a circle, and

# OSCULATORY INTERPOLATION—DEATHS.

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CALCULATION OF THE LIFE TABLE FOR MALES IN THE STATE OF NEW YORK: 1910

PHOTOGRAPHS OF ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS

|           |           | 167         |           |           | 168         |            |            |
|-----------|-----------|-------------|-----------|-----------|-------------|------------|------------|
| 99991,424 |           | 10° 6' 37.7 | 116,368   |           | 10° 6' 37.7 | 25427,264  | 22639,872  |
| 99949,328 |           |             | 99940,752 |           |             | 57,120     | 99858,4672 |
| 99940,752 | 99741,520 |             | 57,120    | 98764,800 | 16727,200   |            |            |
| 21,328    | 70,352    |             | 99962,080 | 99819,872 | 99688,240   | 25484,364  | 21224,544  |
| 99962,080 | 99819,872 | 96888,240   | 19,200    | 98584,672 | 13615,440   | 19,200     | 99654,6512 |
| 19,008    | 141,968   | 563,200     | 99981,088 | 99961,840 | 99745,440   | 25503,564  | 19771,056  |
| 99981,068 | 99961,840 | 97451,440   | 288       | 98546,512 | 11066,880   | 288        | 99848,5872 |
| 99964,864 | 99977,520 | 525,120     | 99947,952 | 99939,360 | 99797,6560  | 25503,872  | 18256,928  |
| 99947,952 | 99939,360 | 97976,560   | 99948,240 | 98485,872 | 9045,440    | 99994,240  | 99851,4400 |
| 99969,648 | 89,168    | 487,040     | 99917,600 | 28,528    | 99846,3600  | 25452,112  | 16771,328  |
| 99917,600 | 28,528    | 98463,600   | 99865,840 | 98514,400 | 7507,040    | 99986,5840 | 99860,3680 |
| 274,160   | 60,752    | 448,960     | 191,760   | 89,280    | 998912,560  | 25317,952  | 15375,008  |
| 191,760   | 89,280    | 98912,560   | 57,600    | 98603,680 | 6419,600    | 57,600     | 99866,0672 |
| 121,440   | 99967,712 | 410,880     | 311,200   | 56,992    | 99932,440   | 25375,552  | 14035,680  |
| 313,200   | 56,992    | 99323,440   | 370,800   | 98660,672 | 5743,040    | 370,800    | 99864,0576 |
| 99867,680 | 99930,912 | 372,800     | 180,880   | 99987,904 | 99969,640   | 25746,352  | 12684,256  |
| 160,080   | 99987,904 | 99696,240   | 551,680   | 98648,576 | 5439,280    | 551,680    | 99867,9040 |
| 99762,272 | 42,560    | 334,720     | 99964,152 | 30,464    | 30,960      | 26298,032  | 11363,296  |
| 99963,152 | 30,464    | 30,960      | 99663,120 | 98679,040 | 5470,240    | 514,832    | 99863,7920 |
| 86,784    | 99928,416 | 296,640     | 49,936    | 99958,880 | 327,600     | 26812,864  | 10001,216  |
| 49,936    | 99956,880 | 327,600     | 564,768   | 98637,920 | 5797,840    | 564,768    | 99856,3680 |
| 99665,696 | 99966,880 | 245,120     | 99735,632 | 99925,760 | 572,720     | 27377,632  | 8564,096   |
| 99735,632 | 99925,760 | 572,720     | 300,400   | 98563,680 | 6370,560    | 300,400    | 99655,1440 |
| 99835,468 | 62,000    | 193,600     | 99571,120 | 99987,760 | 766,320     | 27672,032  | 7116,336   |
| 99571,120 | 99987,760 | 766,320     | 99871,520 | 98551,440 | 7136,880    | 99987,1520 | 99862,4560 |
| 169,720   | 85,360    | 222,720     | 99740,048 | 73,120    | 989,040     | 27549,552  | 57408,96   |
| 99740,048 | 73,120    | 989,040     | 99611,368 | 98624,560 | 8125,920    | 999612,368 | 99866,896  |
| 308,904   | 99971,216 | 211,520     | 50,752    | 44,336    | 1200,560    | 27161,920  | 4409,792   |
| 50,752    | 44,336    | 1200,560    | 99663,120 | 98668,896 | 9326,480    | 99966,3120 | 99888,6720 |
| 99908,16  | 173,488   | 133,120     | 99999,568 | 217,824   | 1333,680    | 26825,040  | 3296,512   |
| 99959,568 | 217,824   | 133,1680    | 99622,688 | 98866,720 | 10660,160   | 99962,2688 | 999195,920 |
| 271,024   | 91,376    | 75,456      | 230,592   | 309,200   | 1409,136    | 26447,728  | 24924,32   |
| 230,592   | 309,200   | 1409,136    | 99853,280 | 99195,920 | 12069,296   | 99985,3280 | 999427,936 |
| 156,768   | 99922,316 | 99,432      | 387,360   | 332,016   | 1507,568    | 26301,008  | 1920,368   |
| 387,360   | 230,016   | 1507,568    | 240,640   | 99427,936 | 13576,864   | 240,640    | 999476,460 |
| 99854,928 | 99816,928 | 99755,072   | 242,288   | 48,544    | 1262,640    | 2654,1648  | 1396,848   |
| 242,288   | 48,544    | 1262,640    | 482,928   | 99476,480 | 14839,504   | 482,928    | 99954,3824 |
| 99691,312 | 10,000    | 99581,440   | 99932,600 | 67,344    | 844,080     | 27024,576  | 940,672    |
| 99933,600 | 67,344    | 844,080     | 416,528   | 99543,824 | 15683,584   | 416,528    | 99966,0880 |
| 53,520    | 49,712    | 99713,088   | 99987,120 | 117,056   | 557,168     | 27441,104  | 601,552    |
| 99987,120 | 117,056   | 557,168     | 403,648   | 99660,880 | 16340,752   | 403,648    | 999778,480 |
| 99943,592 | 544       | 56,032      | 99935,712 | 117,600   | 613,200     | 27844,752  | 380,032    |
| 99935,712 | 117,600   | 613,200     | 339,360   | 99778,480 | 16853,952   | 339,360    | 999870,864 |
| 99940,688 | 99974,288 | 339,360     | 99876,400 | 92,364    | 645,840     | 28184,112  | 25089,6    |
| 99876,400 | 92,364    | 645,840     | 213,760   | 99870,864 | 17499,792   | 213,760    | 999934,928 |
| 20,128    | 99871,680 | 99840,480   | 99904,528 | 64,064    | 486,320     | 28399,872  | 185,824    |
| 99904,528 | 64,064    | 486,320     | 120,288   | 99934,928 | 17986,112   | 120,288    | 1564       |
| 81,104    | 25,92     | 99793,760   | 99985,632 | 66,656    | 280,080     | 28520,160  | 167,408    |
| 99905,632 | 66,656    | 280,080     | 105,920   | 1584      | 18266,192   | 105,920    | 999996,720 |
| 99976,176 | 99928,480 | 99887,680   | 99961,908 | 99955,136 | 167,760     | 28626,080  | 184,128    |
| 99961,808 | 99955,136 | 167,760     | 67,728    | 99996,720 | 18433,952   | 67,720     | 999952,240 |
| 99971,104 | 99960,384 | 99975,328   | 99934,912 | 99955,520 | 143,088     | 28693,808  | 136,368    |
| 99934,912 | 99955,520 | 143,088     | 26,40     | 99952,240 | 18577,040   | 2,640      | 999929,904 |
| 99992,120 | 22,144    | 99894,208   | 99927,040 | 99977,664 | 37,296      | 28696,448  | 66,272     |
| 99927,040 | 99977,664 | 37,296      | 99920,680 | 99929,904 | 18614,336   | 999929,680 | 999966,768 |
| 99994,688 | 39,200    | 357,024     | 99921,728 | 36,864    | 394,320     | 28626,128  | 330,40     |
| 99921,728 | 36,864    | 394,320     | 99851,408 | 219,52    | 19008,656   | 99985,1408 | 999988,720 |
| 99996,688 | 99985,088 | 576,000     | 99920,416 | 99982,720 | 970,320     | 28477,536  | 21,760     |
| 99920,416 | 21,952    | 970,320     | 99916,032 | 7,040     | 19978,976   | 99977,1824 | 999993,760 |
| 99995,616 | 99985,088 | 341,696     | 99916,032 | 99995,760 | 1312,016    | 28249,360  | 17,520     |
| 99916,032 | 7,040     | 1312,016    | 99687,856 | 4,480     | 21290,992   | 99968,7856 | 240        |
| 99960,832 | 99997,440 | 99908,816   | 99896,864 | 240       | 1220,832    | 27937,216  | 17,760     |
| 99896,864 | 4,480     | 1220,832    | 99886,600 | 1920      | 28511,824   | 99958,4720 | 2,160      |
| 99886,736 | 99997,440 | 19,672      | 99886,600 | 2,160     | 1240,704    | 27521,936  | 19,920     |
| 99886,600 | 19,200    | 1240,704    | 99470,320 | 99999,360 | 2375,2528   | 999470,320 | 1,520      |
| 10,56     | 99997,440 | 99690,576   | 99886,656 | 1,520     | 631,280     | 26992,256  | 214,40     |
| 99886,656 | 99999,360 | 9931,280    | 99356,976 | 99996,000 | 24683,808   | 99935,6976 | 999998,320 |
| 35,856    | 99997,440 | 99490,800   | 99922,512 | 99994,240 | 422,080     | 26349,232  | 19,760     |
| 99922,512 | 99996,800 | 422,080     | 99279,488 | 99998,320 | 25105,888   | 999279,488 | 999952,560 |
| 21,072    | 99997,440 | 99657,984   | 99943,584 | 99994,240 | 80,064      | 25626,720  | 12,320     |
| 99943,584 | 99997,440 | 80,064      | 99223,072 | 99992,560 | 25185,952   | 99922,3072 | 999984,240 |
| 99356,624 | 99997,440 | 4,860       | 99800,208 | 99991,680 | 124,944     | 24851,792  | 999965,60  |
| 99800,208 | 99991,680 | 124,944     | 99023,280 | 99984,240 | 25310,896   | 99902,3280 | 999973,360 |
| 99941,312 | 99997,440 | 99991,424   | 99741,520 | 99989,120 | 116,368     | 23875,072  | 999969,920 |
| 99741,520 | 99989,120 | 116,368     | 98764,800 | 99973,360 | 25427,264   | 998764,800 |            |

this same symbol is placed before the sum in tape 171 which should agree with it. As stated before, these marks are merely for the convenience of the reader and are not used in the computations.

172. For convenience in determining  $q_x$  the values in tape 168, or  $(3d)_x$ , were added in groups of five and three spaces left between each group so as to correspond to the sums  $(3l)_x$  in tape 170. The two tapes were pinned together so that populations and deaths for corresponding ages stood opposite each other, and then placed so that they could be conveniently read by the operator of the calculating machine on which the values of  $q_x = (3d)_x / (3L_x + 1.5d_x)$  were determined to the nearest sixth decimal place. The sums of the  $(3d)_x$  from tape 168 in groups of five should equal the  $\Delta(3l)_x$  for corresponding ages on the right of tape 148, and this serves as a check on the copying in tape 172.

173. Then each  $10^6(3d)_x$  in tape 172 was divided by the corresponding  $10^6(3l)_x$  in tape 170 and the quotient to the nearest sixth decimal place was entered on the left of tape 173 under the caption  $10^6q_x$ . As in tape 146,  $10^6q_x$  was entered on the left of the machine and  $10^6p_x$  on the right, the machine being split between banks 10-11 and 6-7. After the values for age 9 were entered a subtotal was taken as a check on the work, as the subtotals of these two columns should be complementary. This was repeated after each group of five values.

After the entry of the first value, that is, for age 4, the machine was spaced by adding 5 in bank 7 to indicate the first age in the following group of five values. Then the addition of each  $10^6p_x$  in the next group increased the number in bank 7 by unity, so that age 10 appears in banks 7-8 in the next subtotal, thus indicating the first age in the next group. In this way the ages were recorded automatically and exactly until about age 65, when the values of  $10^6p_x$  have become so small that they do not always increase the number in bank 7 by unity.

**RATES OF MORTALITY AT OLDER AGES DETERMINED FROM POPULATIONS AND DEATHS GRADUATED FROM THE ORIGINAL STATISTICS GROUPED IN ALL FIVE QUINQUENNIAL AGE GROUPS.**

174. On the left of this tape are shown the populations from age 80 to age 114, summed in all five possible quinquennial groups. On the right of the tape are shown the deaths added in the same way. The populations and deaths by single ages were obtained from page 450, columns 8 and 12, respectively, of Table 159. The column in the middle of tape 174 shows the first age of each quinquennial group. For instance, 80 signifies that 15,543 is the sum of  $L_x$  between ages 80 and 84, both inclusive, while 7,840 is the sum of the deaths for the same ages. Again, 81 indicates that 12,461 is the sum of the populations between ages 81 and 85, both inclusive, while 7,081 is the sum of the deaths between these ages. To obtain these three columns the machine was split between banks 6-7 and 10-11.

The process of adding in all groups is as follows:

First, the populations and deaths, ages 80 to 84, were added and a subtotal taken. Then 4,836 and 1,925, the values for age 80, were subtracted from the two subtotals, respectively, by setting up their complements preceded by nines, and 1,754 and 1,166, respectively, the values for age 85, were added and subtotals taken; these subtotals are the sums of the quinquennial groups aged 81 to 85, as indicated by the 81 in the middle column. In the same way the sums of the groups aged 82 to 86 were obtained by subtracting the values for age 81 and adding the values for age 86 and taking a subtotal. This process was repeated until the sums for the age group 110 to 114 were obtained, when a total was taken.

As a check on this work the sums of the groups aged 110 to 114 were added independently. These totals agree with those obtained above, as indicated by the mark  $\oplus$ . The populations and deaths on the tape were then checked back to those in columns 8 and 12, respectively, of Table 159, from which they were copied. The middle column, indicating the age groups, was obtained by setting up 8 in bank 8 while the platen is back, so that it does not appear until the first subtotal is taken. Since the machine is split between banks 6-7, a zero appears in bank 7, and this column is increased by unity after each subtraction when one is carried over to bank 7 from the nines.

175. The results in tape 174 were next arranged so that the sums of the same group followed one another according to ages, that is, group 80-84 was followed by 85-89, and that by 90-94, while the group 81-85 was followed by 86-90, and so on. This was necessary in order to perform the required differencing.

Since the equations (46) and (47) on page 349 call for  $.2\Delta T_x$ ,  $.008\Delta^3 T_{x-5}$ ,  $.2\Delta(3l)_x$ , and  $.008\Delta^3(3l)_{x-5}$ , it was found convenient in tape 175 to set down  $-2\Delta T_x$  and  $-2\Delta(3l)_x$  instead of just  $-\Delta T_x$  and  $-\Delta(3l)_x$ . The multiplication by two was performed mentally. As in tape 174, the population is on the left of the tape and the deaths on the right, the machine being split between banks 6-7 and 11-12.

176. This is merely a summation of the  $-\Delta T_x$  and the  $-(3l)_x$  in tape 174. It is used for checking purposes, and begins with age 85 instead of with age 80, for reasons explained in section 183. When age 105 is reached a subtotal is taken, and then ages 80 to 84 and ages 106 to 110 are added before a second subtotal is taken, which is then set up on the machine and added, giving for totals twice the sums of the columns. As indicated by the marks  $\oplus$ , these agree with the totals in tape 175 and afford a check upon that work.

177. Equations (46) and (47) on page 349 require only the first and third differences, and, since the latter is the second difference of the former, it can be obtained correctly by reversing the usual process of differencing, that is, by subtracting  $\Delta T_{x+5}$  from  $\Delta T_x$  and  $\Delta^2 T_{x+5}$  from  $\Delta^2 T_x$ , instead of subtracting  $\Delta T_x$  from  $\Delta T_{x+5}$  and  $\Delta^2 T_x$



from  $\Delta^2 T_{x+3}$ . It was found more convenient to use the former method, and the differencing of tape 175 to obtain the values in tape 177 and of tape 177 to obtain the values in tape 178 was performed mentally by this method, the results being set down on the adding machine.

At the end of each column of second differences the machine was spaced and the last value in the first difference column added, and a total struck. This serves as a check on the differencing, since the total should equal the first value of the first difference column, as indicated by the mark  $\textcircled{c}$ . In the same way the mark  $\textcircled{c}$  points out that the total of the second differences plus the last value in the second group of first differences equals the first value in that group.

178. The groups in tape 177 were differenced mentally by the same method as were those in tape 175, and the results set down in tape 178. A subtotal was taken after each group of third differences and to this subtotal the last value of the group being differenced was added, which should equal the first value of the group being differenced. This equality is indicated for the first group by the mark  $\textcircled{c}$ .

179. Tape 178 gives twice the third differences of  $T_x$  and  $(3l)_x$ , but equations (46) and (47) on page 349 require eight times the third differences, so that the values in tape 178 were multiplied by 4. This operation was performed mentally and the results set down in tape 179, a total being taken after each group. After all five groups in tape 178 were multiplied the subtotals of each of these five groups were multiplied mentally by four and the results set down at the end of tape 179, a total being taken. As indicated by the mark  $\textcircled{c}$ , these last five products were compared with the totals of each of the above five groups, since they serve as a check on the work in tape 179.

180.  $10^3 L_x$  and  $10^3 (3d)_x$  were obtained according to equations (46) and (47), respectively, on page 349. These equations are copied below cleared of fractions and with  $-\Delta T_{x-2}$  and  $-\Delta(3l)_{x-2}$  substituted for  $u_x$ , and  $(3d)_x$  for  $d_{x+2}$ .

$$\begin{aligned} 10^3 L_x &= -200\Delta T_{x-2} - (-8\Delta^2 T_{x-7}), \\ 10^3 (3d)_x &= -200\Delta(3l)_{x-2} - [-8\Delta^2(3l)_{x-7}]. \end{aligned} \quad (82)$$

The first quantity on the right of each equation was obtained from tape 175, beginning with the second quantity in each group, and to multiply it by 100 it was set down in the hundreds place on the adding machine. Thus 11.360 and 8.372 in tape 175 read 1,136,000 and 837,200 in tape 180. The last quantity in each equation was obtained from tape 179, and, since it was subtracted, its complement, preceded by nines, was set up on the adding machine. Thus 45,072 and 6.632 in tape 179 are entered as 9,954,928 and 9,993,368 in tape 180. The machine was split between banks 7-8 and 10-11.

In making tape 179 care was taken that the distance between any two groups in it be the same as that between any two groups in tape 175; consequently, when

the two tapes were pinned together so that the top number in tape 179 stood opposite the second one in tape 175, this same condition held in each of the other four groups. Hence the operator had only to set up any number in tape 175 in the hundreds place and add to it the complement of the number in tape 179 standing opposite it. Accordingly, the first and last numbers in each group in tape 175 were not used, because no numbers in tape 179 stood opposite them.

In order to have the ages in tape 180 run consecutively, the second number in each of the five groups of tape 175 were added before beginning with the third number of the first group, and then the third number in each group was added before beginning the fourth number of the first group. This can readily be understood by noticing the ages in tape 175. The first group in tape 175 contains seven ages, while the others contain only six. Hence the last age in tape 180 is 107, while the first age is 87.

181. For the same reasons as those described in section 169, it was found convenient to use the formula

$$\begin{aligned} q_x &= (3d)_x / (3L_x + 1.5d_x) \\ \text{instead of} \quad q_x &= d_x / (L_x + .5d_x). \end{aligned}$$

Hence, in tape 181 the value of the denominator  $3L_x + 1.5d_x$  was found by repeating three times on the adding machine each of the values on the left of tape 180 and adding to this one-half of the corresponding value on the right of the tape. To save time and space, two additions were performed at the same time by splitting the machine between banks 10-11. Hence the addition for  $x=87$  is on the left of tape 181 and for  $x=88$  on the right.

182. In the same way that values found in tape 169 were added in groups of five in tape 170, so the values found in tape 181 were added in groups of five on the left of tape 182, only in this case subtotals are obtained between groups instead of totals.

The values of  $10^3(3d)_x$  from tape 180 were copied on the right of tape 182 so that they stand opposite the  $10^3(3l)_x$  of the same age: accordingly, to determine  $q_x$  the operator had only to divide the number on the right by the one opposite it on the left.

183. This serves only as a check on the work from tape 175 to tape 182, especially from tapes 180-182. Since

$$\begin{aligned} 3l_x &= 3L_x + \frac{1}{2}(3d)_x, \\ 10^3(3l)_x &= -600\Delta T_{x-2} - 100\Delta(3l)_{x-2} \\ &\quad - 3(-8\Delta^2 T_{x-7}) - \frac{1}{2}[-8\Delta^2(3l)_{x-7}], \end{aligned}$$

when the values for  $10^3 L_x$  and  $10^3 (3d)_x$  from equations (82) are substituted. The ages in tape 181 are the same as those in tape 180; hence the total of the quantities on the left of tape 182 is equal to

$$\begin{aligned} 10^3 \sum_{x=87}^{x=107} (3l)_x &= -600 \sum_{x=85}^{x=105} \Delta T_x - 100 \sum_{x=85}^{x=105} \Delta(3l)_x \\ &\quad - 3 \sum_{x=80}^{x=100} (-8\Delta^2 T_x) - \frac{1}{2} \sum_{x=80}^{x=100} [-8\Delta^2(3l)_x]. \end{aligned} \quad (83)$$

CALCULATION OF THE LIFE TABLE FOR MALES IN THE STATE OF NEW YORK: 1910  
 PHOTOGRAPHS OF ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS.

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| 82076 51.002<br>21664 82 13,170<br>6932 87 5,518<br>1370 92 1,410<br>206 97 266<br>20 102 44<br>4 107 10<br>17658 83 11,564<br>5222 88 4,516<br>996 93 1,026<br>136 98 202<br>16 103 28<br>4 108 6<br>14406 84 9,946<br>4048 89 3,572<br>650 94 714<br>98 99 152<br>14 104 22<br>2 109 4<br>155522 (15) 103,222 |  |  | 10358 84 6,374<br>3398 85 2,858<br>552 86 562<br>84 87 130<br>12 88 18<br>2 89 4<br>14406 9,946<br>178<br>-2Δ <sup>2</sup> T <sub>x</sub> X -2Δ <sup>2</sup> (3L) <sub>x</sub><br>11268 80 1,653<br>6000 85 3,466<br>2082 90 1,742<br>320 95 362<br>46 100 66<br>19716 7,294<br>10 14<br>19726 (19) 7,308<br>8664 81 2,166<br>5610 82 3,446<br>1308 83 1,236<br>256 84 290<br>15838 7,138<br>16 44<br>15854 7,182<br>9170 82 3,534<br>4398 83 2,924<br>978 84 952<br>170 85 188<br>14716 7,598<br>16 34<br>14732 7,632<br>8210 83 3,558<br>3366 84 2,666<br>740 85 650<br>108 86 152<br>12424 7,026<br>12 22<br>12436 7,040<br>6960 84 3,516<br>2646 85 2,296<br>460 86 432<br>72 87 112<br>10346 6,356<br>12 18<br>10350 6,374<br>179<br>-8Δ <sup>2</sup> T <sub>x</sub> X -8Δ <sup>2</sup> (3L) <sub>x</sub><br>45072 80 6,632<br>24000 85 13,864<br>3328 90 4,968<br>1280 95 1,448<br>184 100 264<br>78864 (20) 29,176<br>34656 81 8,664<br>23440 82 13,784<br>5232 83 4,944<br>1024 84 1,160<br>63352 28,552<br>56680 82 14,136<br>17592 83 14,696<br>3912 84 3,908<br>680 85 752<br>58864 30,392<br>32840 83 14,232<br>13464 84 10,664<br>2960 85 2,600<br>432 86 600<br>49696 28,104<br>27840 84 14,064<br>11384 85 9,184<br>1672 86 1,728<br>200 87 448<br>41384 25,424<br>78864 (20) 29,176<br>63352 28,552<br>58864 30,392<br>45696 24,104<br>41384 25,424<br>292160 141,546 |  |  | 180<br>10 <sup>3</sup> L <sub>x</sub> X 10 <sup>3</sup> (3d) <sub>x</sub><br>1136000 837,200<br>9954928 9993,368<br>1090928 87 830,568<br>906800 698,000<br>9965344 9991,336<br>872144 88 689,336<br>693200 553,900<br>9963320 9985,864<br>656520 89 539,664<br>522800 451,600<br>9967160 9985,768<br>489360 90 437,368<br>404800 357,200<br>9972160 9985,936<br>376960 91 343,136<br>290200 272,200<br>9976000 9986,136<br>266200 92 258,336<br>187800 196,400<br>9977560 9986,216<br>165360 93 182,616<br>137000 144,000<br>9982408 9986,304<br>119408 94 132,304<br>99600 102,600<br>9986536 9986,336<br>86136 95 91,936<br>65000 71,400<br>9988616 9990,816<br>53616 96 62,216<br>44400 53,800<br>9991672 9993,032<br>36072 97 46,832<br>29800 39,400<br>9994768 9995,056<br>24568 98 34,456<br>20600 26,600<br>9996088 9996,192<br>16688 99 22,792<br>13600 20,200<br>997040 9997,400<br>10640 100 17,600<br>9800 15,200<br>998128 9998,272<br>7928 101 13,472<br>6800 9,600<br>998720 9998,552<br>5580 102 8,152<br>2600 6,000<br>998976 9998,840<br>1576 103 4,840<br>2000 4,400<br>999320 9999,248<br>1320 104 3,640<br>1600 2,800<br>999568 9999,392<br>1168 105 2,192<br>1400 2,200<br>999712 9999,552<br>1112 106 1,752<br>1200 1,600<br>999816 9999,736<br>1016 107 1,336 |  |  | 181<br>10 <sup>3</sup> [3L <sub>x</sub> +1(3d)]<br>1090928 872,144<br>1090928 872,144<br>1090928 872,144<br>415284 344,668<br>3688068 2961,100<br>656520 489,360<br>656520 489,360<br>656520 489,360<br>269832 218,684<br>2239392 1686,764<br>376960 266,200<br>376960 266,200<br>376960 266,200<br>171568 129,168<br>1302448 927,760<br>165360 119,408<br>165360 119,408<br>165360 119,408<br>91308 66,152<br>587388 424,376<br>86136 53,616<br>86136 53,616<br>86136 53,616<br>45968 31,108<br>304376 191,956<br>36072 24,568<br>36072 24,568<br>36072 24,568<br>23416 17,228<br>131632 90,932<br>16688 10,640<br>16688 10,640<br>16688 10,640<br>11396 8,800<br>61460 40,720<br>7928 5,520<br>7928 5,520<br>7928 5,520<br>6736 4,076<br>30520 20,636<br>1576 1,320<br>1576 1,320<br>1576 1,320<br>2420 1,824<br>7148 5,784<br>1168 1,112<br>1168 1,112<br>1168 1,112<br>1096 876<br>4600 4,212<br>1016<br>1016<br>1016<br>668<br>182 3716<br>10 <sup>3</sup> (3L) <sub>x</sub> 10 <sup>3</sup> (3d) <sub>x</sub> X<br>3688068 830,568 87<br>2961100 689,336<br>2239392 539,664<br>1666764 437,368<br>1302448 343,136<br>1187772 284,072<br>927768 258,336 92<br>987388 182,616<br>424376 132,304<br>304376 91,936<br>191956 62,216<br>1431363 3567,480<br>131632 46,832 97<br>90932 34,456<br>61460 22,792<br>40720 17,600<br>30520 13,472<br>14668900 3702,632<br>20636 8,152 102<br>7148 4,840<br>5784 3,648<br>4600 2,192<br>4212 1,752<br>14711280 3723,216<br>3716 1,336 107<br>(21) 14711996 (22) 3724,552 |  |  | 176<br>-ΔT <sub>x</sub> X -Δ(3L) <sub>x</sub><br>5680 85 4,186<br>4534 86 3,450<br>3466 87 2,769<br>2611 88 2,258<br>2024 89 1,786<br>1451 90 1,361<br>939 91 982<br>685 92 720<br>496 93 513<br>325 94 357<br>222 95 269<br>149 96 197<br>103 97 133<br>68 98 101<br>49 99 74<br>34 100 48<br>15 101 30<br>10 102 22<br>8 103 14<br>7 104 11<br>6 105 8<br>22882 19,331<br>15543 60 7,840<br>12461 61 7,081<br>10832 62 6,585<br>8829 63 5,782<br>7203 64 4,973<br>5 106 8<br>2 107 5<br>2 108 3<br>1 109 2<br>1 110 1<br>77761 51,611<br>77761 51,611<br>155522 (16) 103,222<br>177<br>2Δ <sup>2</sup> T <sub>x</sub> X 2Δ <sup>2</sup> (3L) <sub>x</sub><br>19726 80 7,308<br>8458 85 5,650<br>2458 90 2,184<br>376 95 422<br>56 100 80<br>10 105 14<br>2 2<br>31086 (17) 15,680<br>15854 81 7,182<br>7190 82 5,016<br>1580 83 1,570<br>272 84 334<br>16 85 44<br>10 86 16<br>24922 (18) 14,162<br>14732 82 7,632<br>5562 83 4,058<br>1164 84 1,174<br>186 85 222<br>16 86 34<br>4 87 10<br>21664 13,170<br>12436 83 7,048<br>4226 84 3,490<br>860 85 824<br>120 86 174<br>12 87 22<br>4 88 6<br>17658 11,564 |  |  |
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The first two sums on the right side of this equation are obtained from the first subtotals in tape 176, or 22,882 and 19,331, respectively, while the last two sums are obtained from the totals at the end of tape 179, or 292,160 and 141,648, respectively. In order to multiply the two subtotals in tape 176 by 100 they are entered on the left and right sides of tape 183, respectively, in the hundreds column, the machine being split as in tape 182. Then to the quantity on the left is added one-half of its value in the thousands column to obtain 600 times 22,882. The complement of the last total on the left of tape 179, or 292,160, is repeated three times on the left of tape 183, while the complement of one-half the last total on the right of tape 179, or  $\frac{1}{2} \times 141,648 = 70,824$ , is added on the right of tape 183, and a subtotal taken. The subtotal on the left is the sum of the first and third quantities in the equation just above, while the subtotal on the right is the sum of the second and fourth quantities on the right of this equation. From equations (82) it will be seen that the subtotal on the right

of tape 183 is also  $\frac{1}{2} \sum_{x=87}^{x=107} (3d)_x$ . Hence this subtotal is added on both sides of the tape, giving a total on the left which equals the corresponding total in tape 182, as indicated by the mark  $\oplus$ , and a total on the right equal to the corresponding total in tape 182, as indicated by the mark  $\oplus$ .

184. By dividing each number on the right of tape 182 by the corresponding number on the left,  $q_x$  was obtained to the nearest sixth decimal place. Since the average of these death rates added in fives are the death rates required, the first five values were added on the machine and a subtotal taken, which is  $10^6 \sum_{x=87}^{x=91} q_x$ . Then the first value was subtracted by setting up its complement preceded by nines and the sixth value added and a subtotal taken, which is  $10^6 \sum_{x=88}^{x=92} q_x$ . This process was repeated until the last group, ages 103 to 107, was obtained, when a total was taken.

The machine was split between banks 9-10, and 89, the central age of the group 87 to 92, was entered in banks 10 and 11 opposite the first subtotal; the nines in the subtraction raise this age by unity after a subtotal, so that the number in the banks 12 to 10 is the central age of the quinquennial group whose sum is the subtotal.

185. Then the last five  $10^6 q_x$  in tape 184 were added independently in tape 185 as a check on the work in tape 184. The mark  $\oplus$  indicates that the same total was obtained for this group in both tapes 184 and 185.

186. According to the description of this process in section 118, page 349, the average rate of mortality for any age indicated in tape 184 is one-fifth of the subtotal that stands opposite it. This division was performed mentally by multiplying by two and dividing by

ten, which gives a decimal in the quotient. The adding machine was split between banks 3-4, 5-6, and 14-15. The age is entered in the banks 15-17, the integral part of the quotient in the banks 6-11, and the fractional part in the banks 1-3. Thus the first entry in tape 186 is 89 on the extreme left; then  $2 \times 1,221,737$  gives 244,347 in the central group and 4 on the extreme right. When the fractional part is .5 or over, it was preceded by nines and the number in bank 6 increased by unity. These quotients were subtotaled in groups of five for convenience in checking. At the end the 10 tenths, or 1 unit, was added to the sum of the central group, giving a total of 6,361,003.

187. The machine was then split between banks 9-10 and the subtotals in tape 184 added in two columns, beginning with age 89 on the left and age 99 on the right and taking subtotals after each fifth value. At the end the subtotal on the left was added to that on the right and a total taken. Then the total of tape 186 was repeated five times, giving a total equaling that just obtained, as indicated by the mark  $\oplus$ .

#### RATES OF MORTALITY AT OLDER AGES DETERMINED BY APPLICATION OF WITTSTEIN'S FORMULA TO THE AVERAGED RATES FROM ALL FIVE QUINQUENNIAL GROUPS.

188. In sections 117 to 119 the use of the Wittstein formula to obtain rates of mortality at the older ages is explained. As stated there, the constants of the Wittstein formula were based on rates of mortality for ten consecutive ages, taken from tape 186. Before selecting these ages the quinquennial differences of the rates of mortality in tape 186 were found, that is,  $q_{x+5} - q_x$ . This differencing was performed mentally and the results set down on the right side of tape 188. A subtotal was taken after each fifth value to aid in checking this work. On the left of tape 188 is shown a check on the differencing on the right. It will be noted that

$$\sum_{x=89}^{x=100} (q_{x+5} - q_x) = \sum_{x=101}^{x=105} q_x - \sum_{x=89}^{x=93} q_x.$$

The first sum on the right side of the equation is obtained by adding on the left of tape 188 the last five rates of mortality in tape 186, while the second sum is the first subtotal in tape 186. Hence to the first sum is added the complement of 1,348,051, and the total, marked  $\oplus$ , agrees with the sum of the differences on the right of tape 188.

Then as a basis for the calculation of the Wittstein constants the ten consecutive rates of mortality in tape 186 from ages 94 to 103 were selected. No hard and fast rule of selection applicable to all the tables could be fixed upon, owing to the irregularity of the rates obtained at these advanced ages. In some cases the rates began to decrease and in others exceeded unity. The selection, therefore, was a matter of judgment and was made so as to avoid decreasing rates and intervals where great irregularities appeared.



CALCULATION OF THE LIFE TABLE FOR MALES IN THE STATE OF NEW YORK: 1910  
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| <p>183</p> <p>2288200 1933,100</p> <p>11441000</p> <p>99707840</p> <p>99707840</p> <p>99707840</p> <p>99707840 99929,176</p> <p>12852720 1862,276</p> <p>1862276 1862,276</p> <p>(2) 14714996 3784,552</p> <p>184</p> <p><math>10^4 \frac{q_x}{1-q_x}</math></p> <p>225,204</p> <p>232,797</p> <p>240,987</p> <p>259,294</p> <p>263,455</p> <p>X</p> <p>89 1221,737</p> <p>999774,796</p> <p>278,449</p> <p>90 1274,982</p> <p>999767,803</p> <p>310,895</p> <p>91 1333,080</p> <p>999755,013</p> <p>311,761</p> <p>92 1423,854</p> <p>999740,706</p> <p>302,047</p> <p>93 1466,607</p> <p>999736,545</p> <p>324,116</p> <p>94 1527,268</p> <p>999721,551</p> <p>355,780</p> <p>95 1604,599</p> <p>999689,105</p> <p>378,921</p> <p>96 1672,625</p> <p>999682,239</p> <p>370,843</p> <p>97 1731,707</p> <p>999697,953</p> <p>432,220</p> <p>98 1861,880</p> <p>999675,884</p> <p>441,415</p> <p>99 1979,179</p> <p>999644,220</p> <p>395,038</p> <p>100 2018,437</p> <p>999621,079</p> <p>677,112</p> <p>101 2316,628</p> <p>999629,157</p> <p>630,705</p> <p>102 2576,490</p> <p>999567,780</p> <p>476,522</p> <p>103 2620,792</p> <p>999558,585</p> <p>415,954</p> <p>104 2595,331</p> <p>999604,962</p> <p>359,526</p> <p>105 (2) 2559,819</p> <p>185</p> <p><math>\sum_{j=0}^x q_j</math></p> <p>677,112</p> <p>630,705</p> <p>476,522</p> <p>415,954</p> <p>359,526</p> <p>(2) 8559,819</p> | <p>186</p> <p>X Average <math>10^4 q_x</math></p> <p>89 244347</p> <p>90 254996</p> <p>91 270616</p> <p>92 284771 998</p> <p>93 293321</p> <p>94 1348051 1, 10</p> <p>95 305454 996</p> <p>96 320920 998</p> <p>97 346341</p> <p>98 372376</p> <p>99 3027667 3, 8</p> <p>100 395836 998</p> <p>101 403687 4</p> <p>102 463324 996</p> <p>103 515298</p> <p>104 5329972 5, 10</p> <p>105 511964 998</p> <p>6361002 6, 10</p> <p>6361003 6, 10</p> <p>187</p> <p>1221737 1979,179</p> <p>1274982 2018,437</p> <p>1333080 2316,628</p> <p>1423854 2576,490</p> <p>1466607 2620,792</p> <p>6740260 11511,526</p> <p>1527268 2595,331</p> <p>1604599 2559,819</p> <p>1672625</p> <p>1731707</p> <p>1861880</p> <p>15138339 16666,676</p> <p>15138339</p> <p>15138339 31805,015 (2)</p> <p>6361,003</p> <p>6361,003</p> <p>6361,003</p> <p>6361,003</p> <p>6361,003</p> <p>31805,015 (2)</p> <p><math>10^4 (q_{x+5} - q_x)</math></p> <p>61,107</p> <p>65,924</p> <p>63,909</p> <p>61,570</p> <p>79,055</p> <p>331,565</p> <p>90,382</p> <p>82,767</p> <p>128,601</p> <p>168,957</p> <p>151,782</p> <p>463326</p> <p>515298</p> <p>524158</p> <p>519066</p> <p>511964</p> <p>98651949</p> <p>954,254</p> <p>125,230</p> <p>108,277</p> <p>(2) 1185761 1185,761 (2)</p> <p>189</p> <p>X -log <math>q_x</math></p> <p>48494013 59750871</p> <p>569 638</p> <p>94 51505418 40248,471 99</p> <p>50639678 60603,723</p> <p>753</p> <p>95 49360322 39395,524 100</p> <p>52442209 66588,105</p> <p>649 562</p> <p>56 47557142 33411,333 101</p> <p>53550265 71205,171</p> <p>125 474</p> <p>97 46049610 28794,155 102</p> <p>57057468 71945,559</p> <p>700 663</p> <p>98 42901832 28053,778 103</p> | <p>190</p> <p>-log(-log <math>q_x</math>)</p> <p>711849390 X</p> <p>3372</p> <p>84</p> <p>67</p> <p>288147090 94</p> <p>3</p> <p>504744300</p> <p>4316</p> <p>755</p> <p>11</p> <p>395250620 99</p> <p>2</p> <p>693375,150</p> <p>2640</p> <p>176</p> <p>18</p> <p>95 306622,020</p> <p>48</p> <p>595441,100</p> <p>5315</p> <p>221</p> <p>44</p> <p>100 404553,120</p> <p>X</p> <p>677214450</p> <p>913</p> <p>365</p> <p>18</p> <p>322784250 96</p> <p>4</p> <p>523889470</p> <p>3900</p> <p>390</p> <p>39</p> <p>476106200 101</p> <p>1</p> <p>X 663220,200</p> <p>5638</p> <p>94</p> <p>97 336774,050</p> <p>28</p> <p>459302,000</p> <p>1508</p> <p>754</p> <p>75</p> <p>102 540695,660</p> <p>3</p> <p>X</p> <p>632467420</p> <p>8096</p> <p>304</p> <p>20</p> <p>367524160 98</p> <p>447979310</p> <p>10836</p> <p>1084</p> <p>124</p> <p>352008650 103</p> <p>4</p> <p>191</p> <p>log(-log <math>q_x</math>) - log(-log <math>q_{x+5}</math>)</p> <p>10710,353</p> <p>9793,110</p> <p>15332,195</p> <p>20392,161</p> <p>18442,449</p> <p>(26) 74676,268</p> <p>192</p> <p>9971165,291</p> <p>39525,062</p> <p>9969337,798</p> <p>40455,312</p> <p>9967721,575</p> <p>47610,620</p> <p>9966322,595</p> <p>44069,566</p> <p>9963247,584</p> <p>55200,865</p> <p>(26) 74676,268</p> <p>193</p> <p>log(115-X) - log(115-X-5)</p> <p>11809,931</p> <p>12493,874</p> <p>13262,558</p> <p>14132,916</p> <p>15126,767</p> <p>(27) 66826,044</p> | <p>194</p> <p>X log(115-X)</p> <p>94 132221,929</p> <p>95 130103,000</p> <p>96 127875,360</p> <p>97 125527,251</p> <p>98 123044,892</p> <p>99 638772,432</p> <p>100 120411,998</p> <p>101 117609,126</p> <p>102 114612,804</p> <p>103 111394,335</p> <p>107912,125</p> <p>121071,820</p> <p>104 104139,269</p> <p>105 100000,000</p> <p>106 95424,251</p> <p>107 90308,999</p> <p>108 84509,804</p> <p>1685101,143</p> <p>109 77815,125</p> <p>110 69897,000</p> <p>111 60205,999</p> <p>112 47712,125</p> <p>113 50103,000</p> <p>1970834,392</p> <p>195</p> <p>638772,432</p> <p>636772,432</p> <p>998789281,160</p> <p>(27) 66826,044</p> <p>196</p> <p>X <math>n_x</math></p> <p>94 90689,378</p> <p>95 78383,294</p> <p>96 115605,129</p> <p>97 144268,419</p> <p>98 121952,968</p> <p>(24) 550925,188</p> <p>197</p> <p>log(-log <math>q_x</math>) - n log(115-X) and<br/> log(-log <math>q_{x+5}</math>) - n log(115-X-5)</p> <p>115911245 X=94</p> <p>28814709</p> <p>148725954 (28)</p> <p>109200892 X+3=99</p> <p>39525042</p> <p>148725954 (28)</p> <p>X=95 101979,017</p> <p>30662,202</p> <p>(29) 132641,219</p> <p>X+5=100 92185,907</p> <p>40455,312</p> <p>(27) 132641,219</p> <p>137830475 X=96</p> <p>32378425</p> <p>180108900 (30)</p> <p>132496280 X+3=101</p> <p>47610620</p> <p>160108900 (30)</p> <p>X=97 181121,286</p> <p>33677,405</p> <p>(31) 214798,691</p> <p>X+5=102 160729,125</p> <p>54069,566</p> <p>(31) 214798,691</p> <p>150064280 X=98</p> <p>36752416</p> <p>186816694 (32)</p> <p>131615832 X+5=103</p> <p>55200865</p> <p>186816697 (32)</p> |
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189. Equations (48) and (49) for the Wittstein constants, section 119, page 349, require  $\log(-\log q_x)$ . In the Bauschinger and Peters logarithm tables that were used the natural numbers which begin with 1 can be read directly to six figures, while those beginning with 2 or higher numbers can be read directly to only five figures. Hence the increase in  $\log q_x$ , due to its sixth figure, was obtained by interpolation.

Since the rates of mortality selected,  $q_{94}$  to  $q_{103}$ , have six significant figures preceded by a decimal point, the characteristic of their logarithms is  $-1$ , so that the logarithm of any one of these rates of mortality is a negative quantity and equal to the complement of its mantissa, or  $-\log q_x$  equals the complement of the mantissa of  $\log q_x$ .

On the left of tape 189 are shown  $-\log q_x$  for  $x=94$  to  $x=98$ , and on the right side for  $x=99$  to  $x=103$ . The machine was split between banks 8-9 and 9-10. The mantissa, 48,494,013, of the logarithm of the first five figures of  $q_{94}$  was entered on the left side of the machine and beneath it the interpolation, 569, for the sixth figure of  $q_{94}$ . To this was added the complement of the sum, which was read through the glass at the base of the machine, and a total was struck. Of course, the proof that the complement is correct is that the total is zero. This process was repeated for the next four rates of mortality, that is, for ages 95 to 98. Then the platen was rolled back to the beginning of tape 189, and  $-\log q_x$  for  $x=99$  to  $x=103$  were obtained in the same way on the right side of the machine. These last five values left 1 in bank 9 of the total, but this causes no confusion.

190. Since the  $-\log q_x$  in tape 189 have eight figures, three interpolations had to be added to the mantissa of the logarithm of the first five figures of  $-\log q_x$ : then the complement of the sum, read through the glass at the base of the machine, was added. In all cases the interpolations were taken to the nearest first decimal place, but the last number of the complement was not used, except that when it was five or over the next figure to the left was increased by unity. Of course, all the complements are negative numbers.

Since a set of Wittstein constants was to be found from each set of values shown in tape 189, that is, for ages 94 to 99, for ages 95 to 100, and so on, the  $\log(-\log q_x)$  for each of the pairs of values were grouped together by entering the first pair on the left of the machine, the second on the right, the third on the left, and so on, the values for the younger age in each pair being found just above those for the older age. The machine was split between banks 8-9 when the left side was used and between banks 9-10 when the right side was used.

191. The next value required to determine  $n$  is

$$\log(-\log q_x) - \log(-\log q_{x+5}).$$

This was done mentally by taking the difference between the two values in each of the five groups in tape

190, the difference being set down on the adding machine in tape 191, and a total taken. As stated in section 190, only eight figures of the  $\log(-\log q_x)$  were used.

192. A check on this differencing was to set down the complements of the first values in each group of tape 190 and to add to them the second values in each group. This is done in tape 192, and the total, marked  $\oplus$ , agrees with that in tape 191.

193. In equation (48) on page 349 the denominator for the value of  $n$  is

$$\log(115-x) - \log[115-(x+5)].$$

Since the rates of mortality used in this computation are for ages 94 to 103, it is necessary to find the logarithms of  $(115-x)$  from  $x=94$  to  $x=103$ , or of 21 to 12, both inclusive. The mantissas of these logarithms are shown consecutively on page 2 of the logarithm tables. In actual practice these logarithms, together with a number of others, and their quinquennial differences were copied on sample sheets which outlined these computations, so that the computer could use them in working out values for different tables without having to recompute them each time. However, for the convenience of the reader the work in tape 193 and tape 194 is shown here. In subtracting no attention need be given the characteristic of these logarithms, since it is either 1 or zero and disappears in the process of subtraction. The differences,  $\log 21 - \log 16$ ,  $\log 20 - \log 15$ , and so on, are set down in tape 193 and their total taken.

194. Then the logarithms of  $(115-94)$ , or 21, to  $(115-113)$ , or 2, are copied down in tape 194, subtotals being taken after each fifth value. The subtotals and totals are for convenience in checking.

195. Since the sum of the differences shown in tape 193 is the sum of the logarithms of the differences from  $(115-94)$ , or 21, to  $(115-98)$ , or 17, less the sum of the logarithms of the differences from  $(115-99)$ , or 16, to  $(115-103)$ , or 12, a check on the differencing in tape 193 is made by repeating the first subtotal in tape 194 twice and adding to it the complement of the second subtotal. The total, marked  $\oplus$ , is the same as that shown in tape 193.

196. Then, according to the equation (48) on page 349, the five different values for  $n$  are the five different quotients obtained by dividing each number in tape 191 by the corresponding number in tape 193. These were computed to the nearest eighth decimal place and set down in tape 196 as  $n_x$ , and a total taken.

197. Equations (49) on page 349, when  $x$  is substituted for  $b$  and 115 for  $M$ , become

$$\log \log a = \log(-\log q_x) - n \log(115-x) \quad (84)$$

$$\text{and} \quad \log \log a = \log(-\log q_{x+5}) - n \log(115-x-5).$$

In order to check the work thus far,  $\log \log a$  was determined from both equations. The first term on the right of each equation is negative, while the second is positive. Hence the remainder, or  $\log \log a$ ,

CALCULATION OF THE LIFE TABLE FOR MALES IN THE STATE OF NEW YORK: 1910  
 PHOTOGRAPHS OF ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS

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| <p>183</p> <p>2288200 1933,100</p> <p>11441000</p> <p>99707840</p> <p>99707840</p> <p>99707840</p> <p>12852720 1862,276</p> <p>1862276 1862,276</p> <p>(21) 14714996 3724,552 (22)</p> <p>184</p> <p><math>10^6 q_x</math></p> <p>225,204</p> <p>232,797</p> <p>240,987</p> <p>259,294</p> <p>263,455</p> <p><math>x</math></p> <p>89 1221,737</p> <p>999774,796</p> <p>278,449</p> <p>90 1274,982</p> <p>999767,203</p> <p>310,895</p> <p>91 1353,080</p> <p>999759,013</p> <p>311,761</p> <p>92 1423,854</p> <p>999740,706</p> <p>302,047</p> <p>93 1466,607</p> <p>999736,545</p> <p>324,116</p> <p>94 1527,268</p> <p>999721,551</p> <p>355,780</p> <p>95 1604,599</p> <p>999609,105</p> <p>378,921</p> <p>96 1672,625</p> <p>999688,239</p> <p>370,843</p> <p>97 1731,707</p> <p>999697,953</p> <p>432,220</p> <p>98 1861,880</p> <p>999675,884</p> <p>441,415</p> <p>99 1979,179</p> <p>999644,220</p> <p>395,038</p> <p>100 2012,437</p> <p>999621,079</p> <p>677,112</p> <p>101 2316,628</p> <p>999629,157</p> <p>630,705</p> <p>102 2576,490</p> <p>999567,780</p> <p>476,522</p> <p>103 2620,792</p> <p>999558,585</p> <p>415,954</p> <p>104 2595,331</p> <p>999604,962</p> <p>359,526</p> <p>105 (23) 2559,819</p> <p>185</p> <p><math>\sum_{x=105}^{x=107} q_x</math></p> <p>677,112</p> <p>630,705</p> <p>476,522</p> <p>415,954</p> <p>359,526</p> <p>(23) 2559,819</p> | <p>186</p> <p><math>x</math> Average <math>10^6 q_x</math></p> <p>89 244,347</p> <p>90 254,996</p> <p>91 270,616</p> <p>92 284,771</p> <p>93 293,321</p> <p>94 1348051 1, 10</p> <p>95 305454 996</p> <p>96 320920 998</p> <p>97 334525</p> <p>98 346341</p> <p>99 372376</p> <p>100 3027667 3, 85</p> <p>101 395836 998</p> <p>102 403687 4</p> <p>103 463324 995</p> <p>104 515258</p> <p>105 524153 4</p> <p>5329972 5, 10</p> <p>104 519065 2</p> <p>105 511964 999</p> <p>6361002 6, 10</p> <p>6361003 6, 10</p> <p>187</p> <p>1221,737 1979,179</p> <p>1274,982 2018,437</p> <p>1353,080 2316,628</p> <p>1423,854 2576,490</p> <p>1466,607 2620,792</p> <p>6740260 11511,526</p> <p>1527268 2595,331</p> <p>1604599 2559,819</p> <p>1672625</p> <p>1731707</p> <p>1861880</p> <p>15138339 16666,676</p> <p>15138339</p> <p>15138339 31803,015 (24)</p> <p>6361,003</p> <p>6361,003</p> <p>6361,003</p> <p>6361,003</p> <p>6361,003</p> <p>31803,015 (24)</p> <p>10<sup>6</sup>(<math>q_{x+5} - q_x</math>)</p> <p>61,107</p> <p>65,924</p> <p>63,909</p> <p>61,570</p> <p>79,055</p> <p>331,565</p> <p>90,382</p> <p>82,767</p> <p>128,801</p> <p>168,957</p> <p>151,782</p> <p>463,326</p> <p>515,298</p> <p>524,158</p> <p>519,066</p> <p>511,964</p> <p>92651949</p> <p>1185761 1185,761 (25)</p> <p>188</p> <p><math>x</math> <math>-log q_x</math></p> <p>84 48494013 59780871</p> <p>569 658</p> <p>94 51505410 40248471 99</p> <p>50639678 60603,723</p> <p>753</p> <p>95 49360322 39395,524 100</p> <p>52442209 66588,105</p> <p>649 562</p> <p>96 47557142 33411,333 101</p> <p>53950265 71205,171</p> <p>125 674</p> <p>97 46049610 28794,155 102</p> <p>57097468 71945,559</p> <p>700 663</p> <p>98 42901832 28053,778 103</p> <p>189</p> | <p>190</p> <p><math>-log(-log q_x)</math></p> <p>711849390 <math>x</math></p> <p>3372</p> <p>84</p> <p>67</p> <p>288147090 94</p> <p>3</p> <p>604744300</p> <p>4316</p> <p>753</p> <p>11</p> <p>395250620 99</p> <p>2</p> <p>693375,150</p> <p>2640</p> <p>176</p> <p>18</p> <p>95 306623,020</p> <p>595441,100</p> <p>5,315</p> <p>221</p> <p>100 404553,120</p> <p>677214450 <math>x</math></p> <p>913</p> <p>365</p> <p>18</p> <p>322784250 96</p> <p>4</p> <p>523889470</p> <p>3900</p> <p>390</p> <p>39</p> <p>476106200 101</p> <p>1</p> <p><math>x</math> <math>663220,200</math></p> <p>5658</p> <p>94</p> <p>97 336774,050</p> <p>459302,000</p> <p>1,508</p> <p>754</p> <p>75</p> <p>102 540693,660</p> <p>3</p> <p>632467420</p> <p>8096</p> <p>304</p> <p>20</p> <p>357524160 98</p> <p>447979310</p> <p>10836</p> <p>1084</p> <p>124</p> <p>552008650 103</p> <p>4</p> <p>191</p> <p><math>log(-log q_x) - log(-log q_{x+5})</math></p> <p>10710,353</p> <p>9793,110</p> <p>15332,193</p> <p>20392,161</p> <p>18448,449</p> <p>74676,268 (26)</p> <p>9971185,291</p> <p>39525,062</p> <p>9969337,798</p> <p>40455,312</p> <p>9967721,575</p> <p>47610,620</p> <p>9966322,595</p> <p>54069,366</p> <p>9963447,384</p> <p>55200,865</p> <p>74676,268 (26)</p> <p>192</p> <p>193</p> <p><math>log(115-x) - log(115-x-5)</math></p> <p>11809,931</p> <p>12493,874</p> <p>13262,536</p> <p>14132,916</p> <p>15126,767</p> <p>66826,044 (27)</p> | <p>194</p> <p><math>x</math> <math>log(115-x)</math></p> <p>94 132221,939</p> <p>95 130103,000</p> <p>96 127875,360</p> <p>97 125527,251</p> <p>98 123044,892</p> <p>638772,432</p> <p>120411,998</p> <p>117609,126</p> <p>114612,804</p> <p>111394,335</p> <p>107918,125</p> <p>1210718,205</p> <p>104139,269</p> <p>100000,000</p> <p>95424,251</p> <p>90308,999</p> <p>84509,804</p> <p>165101,143</p> <p>77815,125</p> <p>69897,000</p> <p>60205,999</p> <p>47712,125</p> <p>30103,000</p> <p>1970834,392</p> <p>638772,432</p> <p>638772,432</p> <p>998789261,280</p> <p>(27) 66826,044</p> <p>196</p> <p><math>x</math> <math>n_x</math></p> <p>94 90689,378</p> <p>95 78381,294</p> <p>96 115605,129</p> <p>97 144286,419</p> <p>98 121958,968</p> <p>(28) 550925,188</p> <p>197</p> <p><math>log(-log q_x) - nlog(115-x)</math> and <math>log(-log q_{x+5}) - nlog(115-x-5)</math></p> <p>119911245 <math>x=94</math></p> <p>28814709</p> <p>148725954 (28)</p> <p>109200892 <math>x+5=99</math></p> <p>39525062</p> <p>148725954 (28)</p> <p><math>x=95</math> 101979,017</p> <p>30662,202</p> <p>(29) 132641,219</p> <p><math>x+5=100</math> 92185,907</p> <p>40455,312</p> <p>(29) 132641,219</p> <p>147830475 <math>x=96</math></p> <p>32378425</p> <p>180106900 (30)</p> <p>132498280 <math>x+5=101</math></p> <p>47610620</p> <p>180106900 (30)</p> <p><math>x=97</math> 181121,286</p> <p>33677,405</p> <p>(31) 214798,591</p> <p><math>x+5=102</math> 160729,125</p> <p>54069,366</p> <p>(31) 214798,591</p> <p>150064280 <math>x=98</math></p> <p>36752416</p> <p>186816696 (32)</p> <p>131615832 <math>x+5=103</math></p> <p>55200865</p> <p>186816696 (32)</p> |
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is negative. The first value for  $n$  in tape 196 was set up on the calculating machine and multiplied by the first value in tape 194 and the product entered upon the left of the adding machine in tape 197. To it was added the first value of the first pair in tape 190. Then this same value of  $n$  is multiplied by the first value in the second group of tape 194, that is, the value for age 99, the product set upon the adding machine just below the first sum in tape 197, and to it is added the second value of the first pair in tape 190. These two sums are marked  $\oplus$  and they agree exactly, showing that the value of  $\log \log a$  from the first set of rates of mortality, those for ages 94 and 99, or  $\log \log a_{94}$ , is  $-1.48725954$ . The agreement of the two results is a check on the work for this value of  $\log \log a$ .

Then, on the right side of tape 197,  $\log \log a_{95}$  from the second set of  $q_x$ , those for ages 95 and 100, are computed in the same way; that is, the second value of  $n$  in tape 196 is set up on the calculating machine and then multiplied first by the second value in tape 194 and then by the second value in the second group. As the products were obtained they were set upon the adding machine and to them were added, respectively, the first and second values in the second pair of tape 190, giving the sum marked  $\oplus$ . Hence the value of  $\log \log a$  from this second set of values, or  $\log \log a_{95}$ , is  $-1.32641219$ . Then  $\log \log a_{96}$  was determined on the left of tape 197 from the third set of values, and so on. The values of  $\log \log a_{98}$  from the last set of values, marked  $\oplus$ , differ by unity in the last figure; however, this is not due to an error in the work, but only to the cutting off of fractions. The first value of a set was always used under such circumstances.

198. The five values for  $\log \log a_x$  are copied down in tape 198 from tape 197 and a total taken.

199. Twice the total in tape 198 was set up and repeated five times, giving as total ten times that in tape 198, as indicated by the mark  $\oplus$ . This gives the average value of the five values of  $\log \log a$  as  $-1.72618292$ .

200. To  $1.72618292$  is added its complement, or  $8.27381708$ , showing that when the mantissa is positive, or  $.27381708$ , the characteristic is 998 on the tape, or 2. or 8. as the characteristic is usually written. This complement is designated  $\overline{\log \log a}$ .

201. Twice the sum in tape 196 is set down and repeated five times, giving a total ten times that in tape 196, as indicated by the mark  $\oplus$ . This shows that the average value of  $n_x$  is  $1.10185038$  when taken to the nearest eighth decimal place, and is designated by  $\bar{n}$ .

202. After the Wittstein constants have been determined, the smoothed rates of mortality are computed from the formula

$$\log (-\log q_x) = \log \log a + \bar{n} \log (115 - x). \quad (85)$$

$\bar{n}$  was set up on the calculating machine, multiplied by the first value in tape 194, and the product to the nearest eighth decimal place entered upon the left

side of the adding machine in tape 202. The mantissa of  $\log \log a$  was added to this. The product of  $\bar{n}$  by the second value in tape 194 was set up four spaces below it on the right side, and the mantissa of  $\log \log a$  was added to it also. The product of  $\bar{n}$  by the third value in tape 194 was set up immediately below this on the left side, and so on.

203. As a check on this work the sums obtained in tape 202 were added. Then below this the product of  $\bar{n}$  times the sum of the  $(115 - x)$  in tape 194, taken to the nearest eighth decimal place, was set up on the adding machine and to it was added 21 times  $\log \log a$ , that is,  $.27381708$  plus 20 times  $.27381708$ . The total agrees with that obtained just above, as indicated by the mark  $\oplus$ .

204. Since only the mantissa of  $\log \log a$  was added in tape 202, the characteristic, or  $-2$ , had to be subtracted mentally. As the integral parts of the sums in tape 202 are either 1 or 0, the characteristic of the log  $(-\log q_x)$  is either  $-1$  or  $-2$ , respectively; that is, the antilogarithms,  $-\log q_x$ , will begin in the first or second decimal place, respectively. They were estimated to the nearest seventh decimal place by interpolation, this work being done with pen and ink, in tape 202. It was ordinarily worked in pencil, but is here shown in ink.

From the values of  $\log (-\log q_x)$  shown in tape 202,  $-\log q_x$  is a positive fraction; hence  $\log q_x$  is a negative fraction, or  $-1$  plus the complement of that fraction, the complement being the mantissa of  $\log q_x$ . In tape 204 the characteristic  $-1$  is not shown, but the antilogarithms of the logarithms in tape 202 are set down to five places and then the other two added by interpolation. This sum is then read through the glass at the base of the machine, its complement added, and a total struck. This complement, of course, is  $\log q_x$ . The machine was split between banks 7-8 and 10-11 and two consecutive antilogarithms and their complements set up together.

205. The antilogarithms of the logarithms in tape 204,  $10^6 q_x$ , were entered on the right of tape 205, the sixth figure being interpolated on tape 204. On the left of tape 205 are entered the  $10^6 p_x$ . The sum of the  $10^6 q_x$  and  $10^6 p_x$  gives 22, the number of items. Attached to the right of tape 205 is another tape, upon the middle of which are copied the  $10^6 q_x$  from tape 186 and on the right  $10^6 q_x$  from tape 173, beginning with age 85. Every fifth age, that is, 85, 90, 95, and so on, is entered on the left of this tape. These three tables of rates of mortality are set here side by side to compare them and to select the rates of mortality which are to be smoothed for the final table by Spencer's 21-term formula. In actual practice the three tapes 205, 186, and 173 can be pinned together while making this comparison. In making this selection three points were kept in mind:

(a) As many as possible of the rates from tape 173 were selected, since it seems desirable to extend the osculatory process just as far as the rates would appear to warrant such extension.

CALCULATION OF THE LIFE TABLE FOR MALES IN THE STATE OF NEW YORK: 1910  
PHOTOGRAPHS OF ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS

[illegible]

(b) As few as possible of the rates of mortality from tape 205 were selected, because these rates depend less upon the actual data and more upon an artificial formula than do those in tapes 173 and 186.

(c) The rates of mortality selected should have about equal weight in determining the smoothed values. Those selected, therefore, should form a fairly smooth table, since values that do not fit in smoothly with the rest of the table would have more than their share of influence upon the smoothed values. The ones selected in this case were from tape 173 through age 93; from tape 186, age 94 through age 99; from tape 205, age 100 through age 115. The tables from tapes 186 and 205 are very close together from ages 96 to 99, but between ages 100 and 101 there is a rough place in tape 186: hence its values were used no further than age 99.

**RATES OF MORTALITY AT OLDER AGES SMOOTHED BY SPENCER'S 21-TERM FORMULA.**

206. To make certain of a smooth junction between the rates of mortality in tape 173 and the smoothed table, it was found best to extend the latter values as far back as age 80. Hence the rates of mortality in tape 173 from age 70 through age 93 are copied in tape 206; in tape 186, from age 94 through age 99; in tape 205, from age 100 through age 115. For purposes of checking, subtotals were taken after each fifth value and a total taken at the end.

207. Equation (50), page 350, for this smoothing process calls for division by 350, or by  $5 \times 7 \times 10$ . In order to decrease the size of the numbers used, the division by 7 was performed first, either mentally or by aid of Crelle's Rechentafeln, opened to the page showing multiples of 7. The quotient to the nearest integer is set down in the middle of tape 207 and the remainder is set down on the right side, the machine being split between banks 14-15. When the remainder was 4, 5, or 6 the quotient on the left was increased by unity and 997, 998, or 999, respectively, set down in the remainder column, since in this case the remainder was considered negative. For purposes of checking, subtotals were taken after each fifth value and a total taken at the end. For convenience in reference these quotients were designated by  $u_x$ . The ages are entered on the left of tape 207.

208. The check on the above work is to repeat the total of the quotients in tape 207 seven times and to add to it the sum of the remainders. As indicated by the mark  $\textcircled{20}$ , the total here is the same as in tape 206.

When one is using Crelle's Rechentafeln it is easy to check up the work after each subtotal. For instance, if a check is desired upon the third subtotal of tape 207

the product of  $7 \times 249,000$  is 1,743,000,  
the product of  $7 \times 764$  is 5,348,  
the sum of the remainders is 10;

then the sum is 1,748,358,

which is the third subtotal in tape 206.

209. The next step was to obtain the operand in equation (50) on page 350, that is,

$$U_x = -u_{x-3} + u_{x-1} + 2u_x + u_{x+1} - u_{x+3},$$

where the operand is designated by  $U_x$ . It was found convenient to determine two consecutive values of  $U$  at the same time, so the machine was split between banks 8, 9, and 10. By comparing Table 134 with the values in tape 207 it is easy to devise a mechanical method of determining these values of  $U$  on the adding machine.

**Table 134**

| DERIVATION OF THE OPERAND IN SPENCER'S 21-TERM FORMULA FOR AGES 73 TO 76. |          |          |          |          |          |          |                   |
|---------------------------------------------------------------------------|----------|----------|----------|----------|----------|----------|-------------------|
|                                                                           | $U_{73}$ | $U_{74}$ | $U_{75}$ | $U_{76}$ | $U_{73}$ | $U_{74}$ | $U_{75}$ $U_{76}$ |
| $u_{x-3}$                                                                 | 9811     | 10296    | 11037    | 11840    | $a$      | $b$      | $c$ $d$           |
| $u_{x-1}$                                                                 | 11037    | 11840    | 12732    | 13737    | $c$      | $d$      | $e$ $f$           |
| $u_x$                                                                     | 11840    | 12732    | 13737    | 14793    | $d$      | $e$      | $f$ $g$           |
| $u_{x+1}$                                                                 | 12732    | 13737    | 14793    | 15857    | $e$      | $f$      | $g$ $h$           |
| $u_{x+3}$                                                                 | 14793    | 15857    | 16955    | 18211    | $g$      | $h$      | $i$ $j$           |

The values of  $u$  which are used in calculating the values of  $U_{73}$ ,  $U_{74}$ ,  $U_{75}$ , and  $U_{76}$  are copied on the left side of Table 134 from tape 207, and the symbols which are used in the formula for  $U_x$  appear in the first column. If the first ten values in tape 207 be designated by  $a$ ,  $b$ ,  $c$ , and so on, to  $i$ , and  $j$ , then the values of  $u$  entering into the calculation of  $U_{73}$ ,  $U_{74}$ ,  $U_{75}$ , and  $U_{76}$  are shown in the four columns on the right of the table. When the values for the first two  $U$ 's were calculated simultaneously, the value  $a$  would be set down on the left of the machine and  $b$  on the right; then beneath them  $c$  on the left and  $d$  on the right. Here a break occurs,  $d$  being set down again, this time on the left, while  $e$  is put on the right and the two repeated twice by means of the repeat key. Then setting down  $e$  again, this time on the left,  $f$  is entered on the right; then  $g$  on the left and  $h$  on the right.

Then starting the calculation of the next two values of  $U$ , that is,  $U_{75}$  and  $U_{76}$ , the first line is  $c$  and  $d$ , which is the second line in the calculation of the pair before. The same process is repeated in the calculation of  $U_{75}$  and  $U_{76}$  as in the calculation of  $U_{73}$  and  $U_{74}$ . One thing which must be remembered, however, is that the complements of the first and last line of values must be set up instead of the values themselves.

210. For convenience in reference and checking, the values of  $U_x$  are copied, taking subtotals after the same ages as in tape 207. Hence there are only two values in the first group and only three in the last. From the formula for  $U_x$  it will be noted that, with the exception of the first six and the last six values, all the values in tape 207 are added four times and subtracted twice, so that each enters twice in the sum of



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| 207                          |         | Remainders |          |          |          |          | 211                   |
|------------------------------|---------|------------|----------|----------|----------|----------|-----------------------|
| $x \quad u_x = 10^6 g_x + 7$ |         |            |          |          |          |          | Check on $U_x$        |
| 70                           | 9611    | 2          | 99985207 | 99984143 | 99939238 | 99931315 | 9611 142857           |
|                              | 10296   | 2          | 16953    | 16211    | 68832    | 73208    | 9611 142857           |
|                              | 11037   | 998        | 18211    | 19665    | 73208    | 77822    | 9611 142857           |
|                              | 11840   | 1          | 18211    | 19665    | 73208    | 77822    | 9611 142857           |
|                              | 12732   | 999        | 19665    | 21256    | 77822    | 82650    | 10296 136810          |
|                              |         |            | 99977109 | 99973466 | 99912213 | 99906853 | 10296 136810          |
| 75                           | 55516   | 2, 2       | 35358    | 38406    | 144521   | 1537008  | 10296 136810          |
|                              | 13737   | 1          |          |          |          |          | 11037 130192          |
|                              | 14793   | 3          |          |          |          |          | 11037 130192          |
|                              | 15857   | 998        | 99983045 | 99981789 | 99931168 | 99926792 | 99987268 9982951      |
|                              | 16955   | 3          | 19665    | 21256    | 77622    | 82650    | 99986263 99889275     |
|                              | 18211   | 1          | 21256    | 22891    | 82680    | 87787    | 55326 871611          |
| 80                           | 135069  | 3, 8       | 21286    | 23891    | 82680    | 87787    |                       |
|                              | 19665   | 1          | 22891    | 24334    | 87787    | 93147    | 871611                |
|                              | 21256   |            | 99973651 | 99971637 | 99901240 | 99895377 | 55326 871611          |
|                              | 22891   | 2          | 41764    | 44990    | 163377   | 173570   | 2432099 55326         |
|                              | 24534   |            |          |          |          |          | 2432099 3937261       |
|                              | 26349   | 999        | 99980335 | 99978744 | 99922178 | 99917320 | 77 4864198 77 4864198 |
| 85                           | 249764  | 4, 10      | 22891    | 24534    | 99922178 | 99917320 |                       |
|                              | 28363   | 998        | 24534    | 26349    | 99922178 | 99917320 |                       |
|                              | 30381   | 999        | 26349    | 28363    | 99922178 | 99917320 |                       |
|                              | 32247   |            | 99969619 | 99967753 | 99922178 | 99917320 |                       |
|                              | 33912   | 997        | 48262    | 52092    | 184294   | 195561   |                       |
|                              | 35298   | 998        |          |          |          |          |                       |
| 90                           | 409965  | 8, 2       | 99977109 | 99973466 | 99912213 | 99906853 |                       |
|                              | 35861   | 1          | 26349    | 28363    | 98760    | 104623   |                       |
|                              | 36373   | 3          | 28363    | 30381    | 104623   | 110725   |                       |
|                              | 38165   | 1          | 28363    | 30381    | 104623   | 110725   |                       |
|                              | 41744   |            | 99966088 | 99964702 | 110725   | 117049   |                       |
|                              | 43636   | 2          | 56653    | 61540    | 99876441 | 99869808 |                       |
| 95                           | 605744  | 8, 9       | 99973651 | 99971637 | 207385   | 219783   |                       |
|                              | 45846   | 998        | 30381    | 32247    | 99901240 | 99895377 |                       |
|                              | 47769   | 2          | 32247    | 33912    | 110725   | 117049   |                       |
|                              | 49477   | 997        | 33912    | 35298    | 117049   | 123559   |                       |
|                              | 53197   |            | 99964139 | 99963627 | 123559   | 130192   |                       |
|                              | 56548   |            | 66577    | 70633    | 99863190 | 99857143 |                       |
| 100                          | 858601  | 10, 8      | 99966088 | 99964702 | 232612   | 246879   |                       |
|                              | 60762   | 997        | 33912    | 35298    | 510      |          |                       |
|                              | 64685   | 3          | 35298    | 35861    | $x$      | $U_x$    |                       |
|                              | 68832   | 997        | 35861    | 36373    | 73       | 21045    |                       |
|                              | 73208   | 999        | 99961835 | 99958256 | 73       | 24888    |                       |
|                              | 77822   | 999        | 71823    | 69402    | 73       | 47933    |                       |
| 105                          | 1203910 | 14, 3      | 99966088 | 99964702 | 80       | 27007    |                       |
|                              | 82680   | 999        | 35861    | 36373    | 85       | 29129    |                       |
|                              | 87787   | 2          | 36373    | 38165    |          | 31065    |                       |
|                              | 93147   | 1          | 38165    | 41744    |          | 33358    |                       |
|                              | 98760   | 1          | 99956364 | 99954154 |          | 203477   |                       |
|                              | 104623  | 997        | 69224    | 73303    |          | 36406    |                       |
| 110                          | 1670907 | 16, 3      | 99964139 | 99963627 |          | 41764    |                       |
|                              | 110725  | 999        | 38165    | 41744    |          | 44998    |                       |
|                              | 11      |            |          |          |          |          |                       |



all the  $U$ 's. Also, since the formula is symmetrical, values at the same distance from the beginning and end of tape 207 will be added and subtracted the same number of times. Hence the first two and the last two values are each subtracted once. The third values from the ends are each added once and subtracted once. The fourth values from the ends are each added three times and subtracted once. The fifth and sixth values from the ends are each added four times and subtracted once. These statements can readily be checked up by writing down the calculation of the next pair of  $U$ 's in Table 134, page 398, that is, the  $U$ 's for ages 77 and 78, and then studying the letters that enter into the calculation of these three pairs.

211. From the above statements it is seen that

$$2 \sum_{x=70}^{x=115} u_x = \sum_{x=73}^{x=112} U_x + 3(u_{70} + u_{71} + u_{114} + u_{115}) + 2(u_{72} + u_{113}) - (u_{74} + u_{75} + u_{110} + u_{111}). \quad (86)$$

Hence in tape 211 the first two values in tape 207 are repeated three times on the left, and opposite them on the right the last two quantities are repeated in the same way. Then the values third from the ends are repeated twice, the one near the beginning on the left and the other on the right. After this the complements of the fifth and sixth values are set down, those near the beginning on the left and those near the end on the right. Their totals are then added to the total of tape 210, and the sum is found to equal twice the total of tape 207, as indicated by the mark  $\otimes$ .

If the totals marked  $\otimes$  do not agree, the first total on the left of tape 211 is convenient to use in locating the error, for a check similar to that in tape 211 can be made on any part of tape 210. In locating an error it is well to check the middle of the column first, say the subtotal after age 94. The operation on the first six values in tape 207 would be the same, giving the total 55,326, but the value for age 97 instead of that for age 115 would be the last value in tape 207 to be used. Hence the operation would be as follows, the addition of the first four numbers on the left being to

determine  $\sum_{x=70}^{x=97} u_x$  in place of  $\sum_{x=70}^{x=115} u_x$ , or 2,432,099, which were used in tape 211:

|         |          |
|---------|----------|
| 605744  | 49477    |
|         | 49477    |
| 49477   | 49477    |
|         | 47789    |
|         | 47789    |
| 47789   | 47789    |
|         | 45846    |
| 45846   | 45846    |
|         | 99958256 |
|         | 99961835 |
| 748856  | 303581s  |
| 748856  | 55326    |
|         | 1138805  |
| 1497712 | 1497712* |

If these totals do not agree there is an error before age 95, and some subtotal midway between the beginning of the column and age 95 should be checked, say age 85. If the totals do agree the error occurs after age 94, and the subtotal before age 105 should be checked.

212. The formula for this smoothing process calls for the addition of the operand twice in groups of fives and once in groups of sevens. The first addition of the operand  $U$  was that in groups of sevens, and the sums were designated by  $v$ . Since the first value in tape 210 is for age 73, the first  $v$  would be for age 76, and its value is given by the second subtotal in tape 210, that is, 203,477. Starting tape 212 with this value,  $U_{73}$  was subtracted and  $U_{80}$  added and a subtotal taken to obtain  $v_{77}$ . This process was repeated to the end of tape 210. To save space the machine was split between banks 11-12 and 8-9 and the first half of the additions performed on the left of the tape; then the paper was rolled back and the last half of the addition performed on the right.

213. The work in tape 212 was checked by adding the last five values in tape 210 independently, that is, by subtracting the next to the last subtotal in tape 210, or 2,313,600, and 163,377 from the total 3,937,261. As indicated by the mark  $\otimes$ , the total in tape 213 agrees with that in tape 212.

214. For convenience in reference and checking, the  $v$ 's obtained in tape 212 are copied in tape 214, a subtotal being taken after each fifth value and a total at the end.

215. The total in tape 214 would not equal seven times the total of tape 210. In order to bring the total of tape 214 up to the latter sum there must be added to it six times the first and last terms in tape 210, five times the second from each end, four times the third from each end, and so on until the ones sixth from the ends have been added. The first term in tape 210 is set down on the left of tape 215, and on the right the last term, and then they are repeated six times. Just beneath them are set down the values in tape 210 second from the beginning and end, respectively, and they are repeated five times, and so on until the values sixth from the ends of tape 210 are added. On the right of tape 215 these totals are then added to the total of tape 214, while on the left the total of tape 210 is repeated seven times. The two sums marked  $\otimes$  agree.

If the sums do not agree, the approximate location of the error may be found by checking some of the subtotals in tape 214, say the one after age 95. The values at the beginning of tape 210 would be operated upon in the same way and the total, 553,240, on the left of tape 215 would be used, but the value for age 98 instead of that for age 112 in tape 210 would be used. Hence the operation would be performed as

CALCULATION OF THE LIFE TABLE FOR MALES IN THE STATE OF NEW YORK: 1910  
 PHOTOGRAPHS OF ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS

| 207 |                      |         | Remainders |          |          |          |  |  | 211                       |  |
|-----|----------------------|---------|------------|----------|----------|----------|--|--|---------------------------|--|
| $x$ | $U_x = 10^6 q_x + 7$ |         |            |          |          |          |  |  | Check on $U_x$            |  |
| 70  | 9611                 | 2       | 99985207   | 99984143 | 99939238 | 99935315 |  |  |                           |  |
|     | 10296                | 2       | 14955      | 18211    | 68832    | 73208    |  |  | 9611 142857               |  |
|     | 11037                | 998     | 18211      | 19665    | 73208    | 77822    |  |  | 9611 142857               |  |
|     | 11840                | 1       | 18211      | 19665    | 73208    | 77822    |  |  | 9611 142857               |  |
|     | 12732                | 999     | 19665      | 21256    | 77822    | 82680    |  |  | 10296 136810              |  |
|     |                      |         | 99977109   | 99975466 | 99912213 | 99906853 |  |  | 10296 136810              |  |
| 75  | 55516                | 2, 2    | 35358      | 38406    | 144521   | 153700   |  |  | 10296 136810              |  |
|     | 13737                | 1       | 99983045   | 99981789 | 99931168 | 99926792 |  |  | 11037 130192              |  |
|     | 14793                | 3       | 19665      | 21256    | 77822    | 82680    |  |  | 11037 130192              |  |
|     | 15857                | 998     | 21256      | 22891    | 82680    | 87787    |  |  | 99987268 99982951         |  |
|     | 16955                | 3       | 22891      | 24534    | 87787    | 93147    |  |  | 99986263 99989275         |  |
|     | 18211                | 1       | 99973651   | 99971637 | 99901240 | 99895377 |  |  | 55526 871611              |  |
| 80  | 135049               | 3, 8    | 41764      | 44998    | 163377   | 173570   |  |  | 871611                    |  |
|     | 19665                | 1       | 99980335   | 99978744 | 99922178 | 99917320 |  |  | 2432099 55326             |  |
|     | 21256                | 2       | 22891      | 24534    | 99922178 | 99917320 |  |  | 2432099 3937261           |  |
|     | 22891                | 2       | 24534      | 26349    | 93147    | 98760    |  |  | (37) 4864198 (37) 4864198 |  |
|     | 24534                | 999     | 26349      | 28363    | 93147    | 98760    |  |  |                           |  |
| 85  | 245764               | 4, 10   | 99969619   | 99967753 | 98889275 | 99882951 |  |  |                           |  |
|     | 28363                | 998     | 48262      | 52092    | 184294   | 195561   |  |  |                           |  |
|     | 30381                | 999     | 99977109   | 99975466 | 99912213 | 99906853 |  |  |                           |  |
|     | 32247                | 997     | 26349      | 28363    | 98760    | 104623   |  |  |                           |  |
|     | 34298                | 998     | 28363      | 30381    | 104623   | 110725   |  |  |                           |  |
|     | 36349                | 8       | 30381      | 32247    | 110725   | 117049   |  |  |                           |  |
|     |                      |         | 99966088   | 99964702 | 99874441 | 99869808 |  |  |                           |  |
| 90  | 405965               | 8, 2    | 56653      | 61540    | 207385   | 219783   |  |  |                           |  |
|     | 45846                | 998     | 99973651   | 99971637 | 99901240 | 99895377 |  |  |                           |  |
|     | 47789                | 2       | 30381      | 32247    | 110725   | 117049   |  |  |                           |  |
|     | 49477                | 2       | 32247      | 33912    | 117049   | 123559   |  |  |                           |  |
|     | 51197                | 997     | 33912      | 35298    | 123559   | 130192   |  |  |                           |  |
|     | 52948                | 998     | 99964139   | 99963627 | 99863190 | 99857143 |  |  |                           |  |
|     |                      |         | 66577      | 70633    | 232612   | 244879   |  |  |                           |  |
| 95  | 655744               | 8, 9    | 99969619   | 99967753 | 99912213 | 99906853 |  |  |                           |  |
|     | 68681                | 998     | 33912      | 35298    | 98760    | 104623   |  |  |                           |  |
|     | 70682                | 997     | 35298      | 36373    | 104623   | 110725   |  |  |                           |  |
|     | 72682                | 999     | 36373      | 38165    | 110725   | 117049   |  |  |                           |  |
|     | 74682                | 999     | 38165      | 41744    | 117049   | 123559   |  |  |                           |  |
|     |                      |         | 99966088   | 99964702 | 99874441 | 99869808 |  |  |                           |  |
| 100 | 858601               | 10, 8   | 69224      | 73303    | 207385   | 219783   |  |  |                           |  |
|     | 80782                | 997     | 99973651   | 99971637 | 99901240 | 99895377 |  |  |                           |  |
|     | 82680                | 999     | 33912      | 35298    | 98760    | 104623   |  |  |                           |  |
|     | 84680                | 999     | 35298      | 36373    | 104623   | 110725   |  |  |                           |  |
|     | 86680                | 999     | 36373      | 38165    | 110725   | 117049   |  |  |                           |  |
|     | 88680                | 999     | 38165      | 41744    | 117049   | 123559   |  |  |                           |  |
|     | 90680                | 999     | 41744      | 43636    | 123559   | 130192   |  |  |                           |  |
|     | 92680                | 999     | 43636      | 45846    | 130192   | 136810   |  |  |                           |  |
|     | 94680                | 999     | 45846      | 48262    | 136810   | 142857   |  |  |                           |  |
|     | 96680                | 999     | 48262      | 50922    | 142857   | 148914   |  |  |                           |  |
|     | 98680                | 999     | 50922      | 53559    | 148914   | 154971   |  |  |                           |  |
|     |                      |         | 99964139   | 99963627 | 99863190 | 99857143 |  |  |                           |  |
| 105 | 1203910              | 14, 3   | 53163      | 56548    | 207385   | 219783   |  |  |                           |  |
|     | 82680                | 999     | 99969619   | 99967753 | 99901240 | 99895377 |  |  |                           |  |
|     | 84680                | 999     | 33912      | 35298    | 98760    | 104623   |  |  |                           |  |
|     | 86680                | 999     | 35298      | 36373    | 104623   | 110725   |  |  |                           |  |
|     | 88680                | 999     | 36373      | 38165    | 110725   | 117049   |  |  |                           |  |
|     | 90680                | 999     | 38165      | 41744    | 117049   | 123559   |  |  |                           |  |
|     | 92680                | 999     | 41744      | 43636    | 123559   | 130192   |  |  |                           |  |
|     | 94680                | 999     | 43636      | 45846    | 130192   | 136810   |  |  |                           |  |
|     | 96680                | 999     | 45846      | 48262    | 136810   | 142857   |  |  |                           |  |
|     | 98680                | 999     | 48262      | 50922    | 142857   | 148914   |  |  |                           |  |
|     |                      |         | 99966088   | 99964702 | 99874441 | 99869808 |  |  |                           |  |
| 110 | 1670907              | 16, 3   | 69224      | 73303    | 207385   | 219783   |  |  |                           |  |
|     | 110725               | 999     | 99973651   | 99971637 | 99901240 | 99895377 |  |  |                           |  |
|     | 117049               | 997     | 33912      | 35298    | 98760    | 104623   |  |  |                           |  |
|     | 123559               | 999     | 35298      | 36373    | 104623   | 110725   |  |  |                           |  |
|     | 130192               | 998     | 36373      | 38165    | 110725   | 117049   |  |  |                           |  |
|     | 136810               | 997     | 38165      | 41744    | 117049   | 123559   |  |  |                           |  |
|     |                      |         | 99966088   | 99964702 | 99874441 | 99869808 |  |  |                           |  |
| 115 | 2289242              | 20, 993 | 69224      | 73303    | 207385   | 219783   |  |  |                           |  |
|     | 142857               | 1       | 99969619   | 99967753 | 99901240 | 99895377 |  |  |                           |  |
|     |                      |         | 33912      | 35298    | 98760    | 104623   |  |  |                           |  |
|     |                      |         | 35298      | 36373    | 104623   | 110725   |  |  |                           |  |
|     |                      |         | 36373      | 38165    | 110725   | 117049   |  |  |                           |  |
|     |                      |         | 38165      | 41744    | 117049   | 123559   |  |  |                           |  |
|     |                      |         | 41744      | 43636    | 123559   | 130192   |  |  |                           |  |
|     |                      |         | 43636      | 45846    | 130192   | 136810   |  |  |                           |  |
|     |                      |         | 45846      | 48262    | 136810   | 142857   |  |  |                           |  |
|     |                      |         | 48262      | 50922    | 142857   | 148914   |  |  |                           |  |
|     |                      |         | 50922      | 53559    | 148914   | 154971   |  |  |                           |  |
|     |                      |         | 53559      | 56548    | 154971   | 161028   |  |  |                           |  |
|     |                      |         | 56548      | 59502    | 161028   | 167085   |  |  |                           |  |
|     |                      |         | 59502      | 62456    | 167085   | 173142   |  |  |                           |  |
|     |                      |         | 62456      | 65410    | 173142   | 179199   |  |  |                           |  |
|     |                      |         | 65410      | 68364    | 179199   | 185256   |  |  |                           |  |
|     |                      |         | 68364      | 71318    | 185256   | 191313   |  |  |                           |  |
|     |                      |         | 71318      | 74272    | 191313   | 197370   |  |  |                           |  |
|     |                      |         | 74272      | 77226    | 197370   | 203427   |  |  |                           |  |
|     |                      |         | 77226      | 80180    | 203427   | 209484   |  |  |                           |  |
|     |                      |         | 80180      | 83134    | 209484   | 215541   |  |  |                           |  |
|     |                      |         | 83134      | 86088    | 215541   | 221598   |  |  |                           |  |
|     |                      |         | 86088      | 89042    | 221598   | 227655   |  |  |                           |  |
|     |                      |         | 89042      | 91996    | 227655   | 233712   |  |  |                           |  |
|     |                      |         | 91996      | 94950    | 233712   | 239769   |  |  |                           |  |
|     |                      |         | 94950      | 97904    | 239769   | 245826   |  |  |                           |  |
|     |                      |         | 97904      | 100858   | 245826   | 251883   |  |  |                           |  |
|     |                      |         | 100858     | 103812   | 251883   | 257940   |  |  |                           |  |
|     |                      |         | 103812     | 106766   | 257940   | 263997   |  |  |                           |  |
|     |                      |         | 106766     | 109720   | 263997   | 270054   |  |  |                           |  |
|     |                      |         | 109720     | 112674   | 270054   | 276111   |  |  |                           |  |
|     |                      |         | 112674     | 115628   | 276111   | 282168   |  |  |                           |  |
|     |                      |         | 115628     | 118582   | 282168   | 288225   |  |  |                           |  |
|     |                      |         | 118582     | 121536   | 288225   | 294282   |  |  |                           |  |
|     |                      |         | 121536     | 124490   | 294282   | 300339   |  |  |                           |  |
|     |                      |         | 124490     | 127444   | 300339   | 306396   |  |  |                           |  |
|     |                      |         | 127444     | 130398   | 306396   | 312453   |  |  |                           |  |
|     |                      |         | 130398     | 133352   | 312453   | 318510   |  |  |                           |  |
|     |                      |         | 133352     | 136306   | 318510   | 324567   |  |  |                           |  |
|     |                      |         | 136306     | 139260   | 324567   | 330624   |  |  |                           |  |
|     |                      |         | 139260     | 142214   | 330624   | 336681   |  |  |                           |  |
|     |                      |         | 142214     | 145168   | 336681   | 342738   |  |  |                           |  |
|     |                      |         | 145168     | 148122   | 342738   | 348795   |  |  |                           |  |
|     |                      |         | 148122     | 151076   | 348795   | 354852   |  |  |                           |  |
|     |                      |         | 151076     | 154030   | 354852   | 360909   |  |  |                           |  |
|     |                      |         | 154030     | 156984   | 360909   | 366966   |  |  |                           |  |
|     |                      |         | 156984     | 159938   | 366966   | 373023   |  |  |                           |  |
|     |                      |         | 159938     | 162892   | 373023   | 379080   |  |  |                           |  |
|     |                      |         | 162892     | 165846   | 379080   | 385137   |  |  |                           |  |
|     |                      |         | 165846     | 168800   | 385137   | 391194   |  |  |                           |  |
|     |                      |         | 168800     | 171754   | 391194   | 397251   |  |  |                           |  |
|     |                      |         | 171754     | 174708   | 397251   | 403308   |  |  |                           |  |
|     |                      |         | 174708     | 177662   | 403308   | 409365   |  |  |                           |  |
|     |                      |         | 177662     | 180616   | 409365   | 415422   |  |  |                           |  |
|     |                      |         | 180616     | 183570   | 415422   | 421479   |  |  |                           |  |
|     |                      |         | 183570     | 186524   | 421479   | 427536   |  |  |                           |  |
|     |                      |         | 186524     | 189478   | 427536   | 433593   |  |  |                           |  |
|     |                      |         | 189478     | 192432   | 433593   | 439650   |  |  |                           |  |
|     |                      |         | 192432     | 195386   | 439650   | 445707   |  |  |                           |  |
|     |                      |         | 195386     | 198340   | 445707   | 451764   |  |  |                           |  |
|     |                      |         | 198340     | 201294   | 451764   | 457821   |  |  |                           |  |
|     |                      |         | 201294     | 204248   | 4578212  |          |  |  |                           |  |

follows, the addition on the left being to obtain seven times  $\sum_{x=73}^{x=98} U_x$  instead of seven times 3,937,261 in tape 215.

|          |                     |
|----------|---------------------|
| 99889566 | 101888              |
| 1631033  | 101888              |
|          | 101888              |
| 1520599  | 101888 <sub>9</sub> |
| 1520599  | 101888              |
| 1520599  | 101888              |
| 1520599  | 95542               |
| 1520599  | 95542               |
| 1520599  | 95542               |
| 1520599  | 95542               |
|          | 95542               |
|          | 92609               |
|          | 92609               |
|          | 92609               |
|          | 92609               |
|          | 91755               |
|          | 91755               |
|          | 91755               |
|          | 89012               |
|          | 89012               |
|          | 81639               |
|          | 553240              |
|          | 8096551             |
| 10644193 | 10644193*           |

When one has the operation well in mind it can be shortened by reading the subtotal 1,520,599, or  $\sum_{x=73}^{x=98} U_x$ , through the glass at the base of the machine and setting it up on the right. Then 1,138,805 was subtracted, and resulting subtotal 381,794, or  $\sum_{x=95}^{x=98} U_x$ , read through the glass, was repeated twice.

|          |            |
|----------|------------|
| 99889566 | 1520599    |
| 1631033  | 9998861195 |
| 1520599  | 381794     |
| 1520599  | 381794     |
| 1520599  | 101888     |
| 1520599  | 101888     |
| 1520599  | 101888     |
| 1520599  | 95542      |
|          | 95542      |
|          | 92609      |
|          | 89012      |
|          | 89012      |
|          | 81639      |
|          | 553240     |
|          | 8096551    |
| 10644193 | 10644193*  |

216. In order to decrease the size of the operand again, another of the three divisions is performed mentally, that is, the division by five is made by multiplying the values in tape 214 by two mentally. The product, with the exception of the last figure, is entered in the middle of tape 216 and the last figure on the right, the machine being split between banks 6-7 and 14-15. Ages are entered on the left. However, when the last figure of the product was 6 or 8, 996 and 998, respectively, were set down on the right, and the corresponding integral part in the middle was increased by unity. Subtotals were taken after each fifth value and a total at the end for the purpose of checking.

217. As a check on this work the sum of the integers on the left of tape 216 was added to the sum of the decimals on the right and the total repeated five times. As indicated by the mark @, this sum agrees with ten times the total of tape 214.

218. The next addition was that of the quantities in tape 216 in groups of five as those in tape 210 were added in groups of seven in tape 212. Beginning with the first subtotal in tape 216, that is, 236,915, this addition is performed in tape 218. The sums of the groups of five were designated by V.

219. As before, the check on this work was to add the last five quantities in tape 216 independently, which sum in this case equals 230,270 plus the complement of the last subtotal in tape 216, or 3,385,682, plus the total 4,457,111. As indicated by the mark @, this sum agrees with the total of tape 218.

220. For convenience in reference and checking, the V's in tape 218 were copied in tape 220, subtotals being taken after each five and a total taken at the end.

221. As before, this work was checked by adding the total of tape 220 to four times the first and last terms of tape 216, three times the second and next to last terms, and so on to the fourth terms from the end. The agreement of this sum with five times the total of tape 216 is indicated by the mark @.

222-225. By processes identical to those in tapes 218 to 221 the values in tape 220 were added in groups of five, checked, copied, and checked again in tapes 222 to 225. Since this completes all the processes required by the smoothing formula or equation (50) on page 350, except the division by 10, the values in tape 224 are the smoothed values of  $10^7 q_x$  from age 80 to age 105.

226. These values were reduced to  $10^6 q_x$  by setting down the first six figures in each value on the right and the seventh figure on the left. When the seventh figure was 5 or over, it was preceded by 9 and the sixth figure on the right increased by unity. The  $10^6 p_x$  was entered in the central column. The sum of the  $p_x$  and  $q_x$  columns should be an integer equal to the number of rates of mortality entered.

227. The reducing of the  $10^7 q_x$  and the copying of the  $10^6 q_x$  in tape 226 were checked by adding the sum of its integral parts, and the mark @ signifies that the totals in tape 227 and tape 224 agree.

228. An inspection of the rates of mortality in tapes 173, 226, and 205 led to the selection of ages 79-80 as the junction point between the first pair and 104-105 as the junction point between the second pair. Then the values of the rates of mortality in the final table from ages 75 to 109 were entered in tape 228 on the left, their first differences in the middle and second differences on the right, in order to insure that no violent breaks occur in these differences at the junction point. Horizontal lines mark the places of junction.

PHOTOGRAPHS OF ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS

[illegible]

## CALCULATION OF LIFE TABLE FUNCTIONS.

229. All the rates of mortality for the life tables being selected, the next step was to collect and base a life table on their complements, or  $p_x$ . These values are given on the right of tape 146 for ages by months under 1 year and by years from 1 to 4; on the right of tape 173 for ages 5 to 79; in the middle of tape 226 from 80 to 104; and on the left of tape 205 from 105 to 115.

The radix of the life table was taken as 100,000 at age 0. From the value of  $p_x$  mentioned above the values of  $l_x$  were determined to the nearest fourth decimal according to equation (51). In tapes 229, 231, and 232 additions of values of  $l_x$ , required by equations (52) to (55) on pages 351 and 352, are made as a first step in obtaining tape 233 for ages by months under 1 year, tape 235 for ages 1 to 4 years, and tape 236 for ages 5 to 112. The machine is split between banks 14-15 and the age of the  $l_x$  entered opposite it on the left; this age appears again in the total where it represents the age of the  $L_x$  which will be derived from this total. Time can be saved and accuracy increased by entering these values of  $l_x$ , as computed, upon the adding machine in tapes 229, 230, and 232 instead of making a separate copy of them.

Following equation (54) on page 351, 100,000.0000 is set up on the adding machine and 95,264.8 added to it three times with the repeat key, and a total taken. Then, in accordance with equation (55), just beneath this total, 95,264.8000 is set up again with 1 in bank 15 to indicate the age of 95,264.8000. Then  $p_1^{(12)}$ , or .986,500, is set up on the computing machine and multiplied by 95,264.8, and the product, 93,978.7252, taken to the nearest fourth decimal, is entered on the adding machine beneath the 95,264.8000, and a total taken. The 93,978.7252 is then set up on the adding machine just below this total, with 2 in bank 15, and also upon the computing machine, where it is multiplied by  $p_2^{(12)}$ , and the process repeated. Only the work for a few ages is set down here.

230. When the equations (52) on page 351 are added the following is obtained:

$$100 \sum_{x=1}^{x=4} L_x = 41l_1 + 106l_2 + 101l_3 + 100l_4 + 52l_5. \quad (87)$$

Following equation (87),  $l_1$  was set up in unit's place in tape 230 and then repeated four times in ten's place;  $l_2$  was set up in unit's place, again in hundred's place, and one-half of it in ten's place;  $l_3$  was set up in unit's place and again in hundred's place;  $l_4$  was set up in hundred's place;  $l_5$  was repeated twice in unit's place and one-half of it set up in hundred's place. The final sum is used as a check on the work in tapes 231 and 235.

On the left the age is set opposite the entry of each  $l_x$  in unit's place, except that 4 is set opposite  $100l_4$ .

231. In tape 231 the  $l_x$  added in tape 230 are again added to obtain the values for each of the four equations (52) on page 351. Hence  $l_1$  is set once in unit's place and repeated four times in ten's place, and to this is added  $l_2$  once in ten's place, the complement of  $l_2$  in unit's place, one-half of  $l_2$  in hundred's place, and a total taken. Then one-half of  $l_2$  is set up in hundred's place, the complement of  $l_2$  is repeated three times in unit's place, and to this is added  $l_3$  repeated three times in unit's place, and one-half of  $l_3$  added in hundred's place, and a total taken. The complement of  $l_3$  is repeated twice in unit's place, one-half of  $l_3$  is set up in hundred's place, and to this is added  $l_4$  repeated twice in unit's place, and one-half of it in hundred's place. In the same way the complement of  $l_4$  is repeated twice in unit's place, one-half of  $l_4$  is added in hundred's place, then  $l_5$  is repeated twice in unit's place, and one-half of it added in hundred's place. These four totals in tape 231 are  $10^5 L_x$  for ages 1 to 4 years.

232. Beginning with age 5,  $l_x$  is added to  $l_{x+1}$ , according to equation (53), the age appearing in banks 16-17 opposite  $l_x$  and again in the total, from which  $L_x$  will be derived. The work for only a few ages at the beginning and for ages 80 to 115, the latter being used in tapes 243 and 245, is all that is shown here. Age 112 is the last one to appear, since  $l_x$  for ages higher is less than .00005.

233. According to equations (54) and (55) on pages 351 and 352, the first sum in tape 229 should be divided by 48 to obtain  $L_0^{(12)}$ , and the other sums by 24 to obtain the remaining  $L_x^{(12)}$ . These quotients are set down to the nearest fourth decimal place in tape 233, a space being made between the sixth and seventh values, and a subtotal taken at the end. This subtotal was set up once in unit's place, once in ten's place, and a total taken, which is twelve times the sum of the  $L_x^{(12)}$ . This total is for checking purposes.

234. If the values of  $x$  from 1 to 11 months be substituted in equation (55) on page 352, eleven equations are obtained. If these eleven equations and equation (54) on page 351 be each multiplied by 12 and added together, the following equation is obtained:

$$\begin{aligned} 12 \sum_{x=0}^{x=11} L_x^{(12)} &= (l_0^{(12)} + 3l_1^{(12)})/4 + (l_1^{(12)} + l_2^{(12)})/2 + \\ &\quad (l_2^{(12)} + l_3^{(12)})/2 + \dots + (l_{11}^{(12)} + l_{12}^{(12)})/2 \\ &= l_0^{(12)}/4 + l_1^{(12)}/4 + l_1^{(12)} + l_2^{(12)} + l_3^{(12)} + \\ &\quad \dots + l_{11}^{(12)} + l_{12}^{(12)}/2. \end{aligned} \quad (88)$$

Accordingly, one-fourth of  $l_0^{(12)}$  and  $l_{11}^{(12)}$ , 25,000.0000 and 23,816.2000, respectively, are set down in tape 234, followed by the other  $l_x^{(12)}$ , beginning with  $l_1^{(12)}$  and ending with one-half of  $l_{11}$ , the survivors to one year. As indicated by the mark @, the totals in

[illegible]



tapes 233 and 234 agree, thus checking the results for  $L_x^{(12)}$  by months under 1 year of age.

235. The totals obtained in tape 231, or  $L_x$ , from ages 1 to 4 years are added in tape 235, and, as indicated by the mark @, the totals in tapes 235 and 230 agree, thus checking the work on these values of  $L_x$ .

236. Then the totals in tape 232 are divided mentally by two and the results entered in tape 236 to the nearest integer; these are repeated twice by the repeat key, and a total taken. However, beginning with age 80 and continuing to age 112, the quotient to the nearest fourth decimal was entered in tape 236, in order to obtain the values in tape 243 and the measure of vitality according to sections 242 and 245. Only ages 5 and 6, 80 and 81, and 103 to 112 are shown here. The other values between ages 6 and 80 can be obtained from the life table on page 162, and those between ages 81 and 103 can be obtained by taking one-half of the sum in tape 232. For the benefit of the reader the ages are indicated in banks 16-17. In practice the sums can be marked off in groups of five with a pencil.

237. The values for  $l_x$  in tapes 229, 230, and 232 were copied in column 2 of the life table on page 162 to the nearest integer, so that age 105-106 is the last age interval appearing in the life table.

238. These  $l_x$  in column 2 of the life table are then differenced and the differences set down in column 3. These, of course, are the  $d_x$ .

239.  $L_x$ , to the nearest integer, from tapes 233, 235, and 236, is copied in column 6 of the life table on page 162, the last age interval being 105-106. It is well to check this copying of the  $L_x$ , since any error in them will destroy the value of the next work.

240. The  $d_x$ , section 238, are checked on tape 240 by starting with  $l_{106}$ , or zero, and adding to it  $d_{105}$ , then  $d_{104}$ ,  $d_{103}$ , and so on, comparing the total, seen through the glass at the base of the machine, after each addition with the corresponding  $l_x$ . Of course, the fact that the sum of the  $d_x$  is 100,000 is a check, but compensating errors would not change the total. To render this work more compact, the machine was split between banks 10-11, the first part of the addition performed in banks 10 to 17, and a subtotal taken after the addition of deaths in age interval 45-46. Then the tape was rolled back, this subtotal set up in banks 1 to 5, and the remaining  $d_x$  added.

To check the deaths by months under 1 year, the survivors to age 1 year, 87,287, is set up on the adding machine,  $d_{11}^{(12)}$  added, then  $d_{10}^{(12)}$ , and so on, the total after each addition being compared with the corresponding  $l_x^{(12)}$ .

241. Following equation (56) on page 352, the values of  $T_x$  were obtained by summing the values of  $L_x$  in column 6 of the life table, page 162, beginning with age 105-106, and taking a subtotal after each addition, the subtotal being  $T_x$ . The final total, or  $T_0$ , was then compared with that obtained by the operator who duplicated this work.

In order to condense this addition the machine was split between banks 9-10, the first part of the addition through age interval 45-46 performed on the left of the tape, and then a subtotal taken. The tape was then rolled back and this subtotal set up in banks 1 to 7 and the rest of the addition performed.

242. According to equations (58) on page 352,  $\lambda_x^{(12)} = 12L_x^{(12)}/d_x^{(12)}$  and  $\lambda_x = L_x/d_x$ , where  $L_x$  and  $d_x$  are taken to the nearest integer, that is, from columns 7 and 3, respectively, of the life table on page 162, up to age 80; but from that age to age 105,  $L_x$  to four places of decimals was obtained from the last part of tape 236 and the  $d_x$  to four places of decimals was obtained from tape 242.

Referring back to tape 232, the values of  $l_x$  to the nearest fourth decimal are grouped, each two consecutive ages together, the age of the younger value appearing opposite it on the left. These values were differenced mentally from age 80 to age 105 and the results set down in tape 242. At the end a subtotal was taken and  $l_{106}$  added to it, giving  $l_{80}$  as the total, as indicated by the mark @, which is only a partial check on the work, since compensating errors could not be detected in this way. However, since signs were not considered in this differencing, the usual way of checking could not be used as in tapes 149 to 152, and to have written these  $d_x$  in an order reverse to that in tape 232 would have caused confusion in performing the divisions mentioned above.

243. From equation (57) on page 352,  $\theta_x = T_x/l_x$ .  $T_x$  and  $l_x$  are taken to the nearest integer, or from columns 8 and 2, respectively, of the life table on page 162, up to age 80, but from that age on to the end of the life table, age 105,  $T_x$  to four decimal places is taken from tape 243, while  $l_x$  to four decimal places is taken from tape 232.

In tape 243 the  $L_x$  are added to four decimal places, beginning with age 112 in tape 236 and ending with age 80, a subtotal being taken after each addition beginning with age 105. This gives the  $T_x$  mentioned just above. The mark @ indicates that the results for  $T_{80}$  in tapes 243 and 241 practically agree.

244. These subtotals in tape 241, or  $T_x$ , were then copied in column 8 of the life table on page 162.

245. The divisions indicated in the first paragraph of section 242 were made and the quotients to the nearest second decimal set down in column 7 of the life table on page 162.

246. Then the divisions indicated in the first paragraph of section 243 are made and the quotients to the nearest second decimal set down in column 5 of the life table on page 162.

247. According to equation (59) on page 352, the values of  $1000l_x/T_x$  were obtained by multiplying the reciprocals of the values in column 5 of the life table on page 162 by 1,000 and entering the results in column 9 of the life table to the nearest second decimal. Barlow's Table of Reciprocals was used.



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[illegible]

248. From tapes 146, 173, 226, and 205 the values of  $1,000q_x$  were copied to the nearest second decimal in column 4 of the life table on page 162, according to the ages shown in columns 17-22, line 56, Table 135, page 419.

249. Then the duplicate life table values were carefully compared.

**CALCULATION OF RATES OF MORTALITY JOINING THOSE UNDER AGE 5 WITH THOSE BY OSCULATORY INTERPOLATION, FOR WHITE FEMALES IN CITIES OF THE ORIGINAL REGISTRATION STATES, 1901.**

250. Beginning with the left side of Table 118 on page 352, the values for the first four columns are set down in order in tape 250. As will be seen from columns 9 and 10, line 29, of Table 135 on page 416,  $10^6q_3$  was taken from tape 146 and  $10^6q_{13}$  and  $10^6q_{14}$  from tape 173 of the calculation of rates of mortality for white females in cities of the original registration states, 1901, which, of course, are not shown in the preceding computations.

251. The next two columns in Table 118, page 352, are entered in tape 251, the multiplications and subtractions being performed mentally. A check on this work is obtained by adding the fractional part of the sum of  $10^6(2-q_x)$  to the sum of  $2(10^6q_x)$ , the total being the sum of  $10^6q_x$  in tape 250, as indicated by the mark @. The ages are entered in banks 16-17, the machine being split between banks 8-9 and 15-16.

252. The values of  $m_x = 2q_x/(2-q_x)$ , to the nearest twelfth decimal place, were entered on the right of tape 252, being obtained from the values in tape 251. The object in taking so many decimal places at this and several other points in these calculations was to relieve the operator of any consideration of the problem of the minimum number of places necessary to insure a final check to a specified number of decimal places on the quantities or values sought or to be calculated. In banks 16-17 the ages are entered and the products of  $u_x v_x$ , obtained mentally from their values in tape 250, are copied in ink to the right of them.

253. The values of  $U_x$ , determined from the values in tape 252, according to the formula  $U_x = m_x/u_x v_x$  in Table 118, page 352, were entered to the nearest thirteenth decimal place in tape 253. The total is  $10^{13}U$ . The ages are entered in banks 16-17, and between them and the  $U_x$  the factors of  $U_x$  are copied from the last column of Table 118.

254. The sum of the products of the corresponding values in the two columns of tape 253 was obtained by entering  $U_3$  once in unit's place and twice in ten's place,  $U_{13}$  once in unit's place and once in ten's place, and  $U_{14}$  once in ten's place, the total being  $10^{13}V$ , according to the last column in Table 118.

255. The first four columns in Table 119, page 353, are entered in tape 255. Where a number of tables are to be computed from the values for the same ages of  $x$ , these four columns, together with the first three in tape 250 and those in ink in tapes 252 and 253,

were entered in a table used to outline the work, and it was not necessary that they be entered upon the tape.

256. The deaths used in these computations are for the three-year period 1900-1902, and the population at the middle of the period would be as of July 1, 1901. In banks 10 to 15 were entered the population aged 3 on July 1, 1910, and in banks 1 to 6 the population aged 4 at this date. These were taken from column 2 of Table 148 on page 439. To these were added the complements of the population aged 3 and 4, respectively, on July 1, 1900, and then ten times the populations aged 3 and 4, respectively, on July 1, 1900, obtained from column 7 of Table 171 on page 462. The sum is ten times the estimated populations aged 3 and 4, respectively, on July 1, 1901. According to columns 3 and 6, line 29, Table 135, on page 416,  $P_3$  and  $P_4$  are taken from the original statistics for both 1900 and 1910, but  $L_3$  to  $L_{14}$  are taken from tape 161 for white females in cities of the original registration states, 1901. In other words, the estimation of population as of July 1, 1901, was made between population in quinquennial age groups from Tables 148 and 171; then the interpolation into population by single years of age was made.

257. The last four columns in Table 119 on page 353 are entered in tape 257 with the order of the last three columns reversed in order to put two columns side by side on the tape. The column of  $L_x$  was obtained from tape 256, which shows here only  $P_x$  for the two ages 3 and 4.

Since the deaths upon which this work is based are for a three-year period, the populations had to be multiplied by three. Hence the subtotals of each column were repeated twice, so that the final total is three times the sum of the column; that is, the final totals are  $32L_x$ ,  $32y^3L_x$ ,  $32y^2L_x$ , and  $32yL_x$ .

258. Substituting the values of  $e$  and  $f$  from tape 253 in equation (64) on page 352, the equation for  $K$  becomes

$$K = \frac{M - U\Sigma y^2L_x + V\Sigma yL_x - 110U_3\Sigma L_x}{\Sigma y^3L_x - 21\Sigma y^2L_x + 110\Sigma yL_x}. \quad (89)$$

At the beginning of tape 258 the deaths for ages 3, 4, 5-9, and 10-14, taken from column 11 of Table 171 on page 462, are added to obtain  $M$ . A subtotal is taken, and to this are added the other quantities in the numerator of the above equation. The decimal point is between banks 6 and 7. The values of  $U$  and  $U_3$  were obtained from tape 253,  $V$  from tape 254, and the  $32L_x$ ,  $32yL_x$ ,  $32y^2L_x$ , and  $32y^3L_x$  from totals in tape 257. The three products were taken to the nearest sixth decimal place, as indicated by the vertical lines; the complements of the first and last products were entered. The machine was split between banks 13-14. It will be noted that the sum of these products is a negative number; hence after taking a subtotal the complement of this subtotal was added to it, thus showing that the sum of the four quantities in the numerator in the above equation for  $K$  is  $-2,475.529993$ .

REGRAUATION OF THE RATES OF MORTALITY OF WHITE FEMALES IN CITIES OF THE ORIGINAL  
REGISTRATION STATES, 1901, BETWEEN AGES 3 AND 13, TAPES 250-263, AND  
CALCULATION OF THE MEAN POPULATION OF WHITE FEMALES IN THE ORIGINAL REGISTRATION  
STATES FOR THE PERIOD 1901-1910, BEGINNING WITH TAPE 264

PHOTOGRAPHS OF ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS

250

| $x$ | $u_x$ | $u_x^2$ | $10^6 q_x$ |
|-----|-------|---------|------------|
| 3   | -10   | -11     | 12,179     |
| 13  | -1    | 10      | 2,701      |
| 14  | 11    | 1       | 2,974      |
| 22  | 22    |         | 17,854     |

251

| $x$       | $10^6(2q_x)$ | $10^6(2-q_x)$ |
|-----------|--------------|---------------|
| 3         | 24358        | 1987,821      |
| 13        | 5402         | 1997,299      |
| 14        | 5948         | 1997,026      |
| 999982146 |              |               |

(5) 17854 5982,146

252

| $x$          | $u_x$ | $10^6 m_x$   |
|--------------|-------|--------------|
| 3            | 110   | 12253618,409 |
| 13           | -10   | 2704652,633  |
| 14           | 11    | 2978428,924  |
| 17936699,966 |       |              |

253

| $x$                              | $10^6 U_x$       |
|----------------------------------|------------------|
| 3                                | 1113965,310      |
| 13                               | 11197295,347,367 |
| 14                               | 11197295,347,367 |
| $10^6 U \rightarrow 1116975,335$ |                  |

255

| $x$ | $y$ | $y^2$ | $y^3$ |
|-----|-----|-------|-------|
| 3   |     |       |       |
| 4   | 1   | 1     | 1     |
| 5   | 2   | 4     | 8     |
| 6   | 3   | 9     | 27    |
| 7   | 4   | 16    | 64    |
| 8   | 5   | 25    | 125   |
| 9   | 6   | 36    | 216   |
| 10  | 7   | 49    | 343   |
| 11  | 8   | 64    | 512   |
| 12  | 9   | 81    | 729   |
| 13  | 10  | 100   | 1000  |
| 14  | 11  | 121   | 1331  |

256

| $x-3$    | $1901 P_x$ | $x-4$ |
|----------|------------|-------|
| 145812   | 137,387    |       |
| 99888718 | 999891,025 |       |
| 1112810  | 1089,750   |       |
| 1147341  | 1118,162   |       |

257

| $3\sum y^2 L_x$    | $3\sum y L_x$ |
|--------------------|---------------|
| 114734             | 111816        |
| 111816             | 111816        |
| 115343             | 922,744       |
| 109651             | 8960,577      |
| 104950             | 6716,800      |
| 101189             | 12648,625     |
| 98315              | 21236,040     |
| 96276              | 33022,668     |
| 95022              | 40651,264     |
| 94499              | 48809,771     |
| 94656              | 57465,000     |
| 95441              | 127031,971    |
| 1231892            | 416848,276    |
| 1231892            | 416848,276    |
| 1231892            | 416848,276    |
| 36956761250544,828 |               |

$3\sum y^2 L_x$   $3\sum y L_x$

|                    |          |
|--------------------|----------|
| 111816             | 111816   |
| 461372             | 230686   |
| 988859             | 328953   |
| 1679200            | 419800   |
| 2529725            | 505945   |
| 3539340            | 589890   |
| 4717524            | 673932   |
| 6081408            | 760176   |
| 7654419            | 850491   |
| 9465600            | 946560   |
| 11548361           | 1049831  |
| 48775624           | 6468,100 |
| 48775624           | 6468,100 |
| 48775624           | 6468,100 |
| 14632687219404,300 |          |

258

| $M-UB\sum y^2 L_x + V\sum y L_x - 10U_2 \sum y L_x$ |
|-----------------------------------------------------|
| 4126                                                |
| 3107                                                |
| 7818                                                |
| 3900                                                |
| M— 18951 (5)                                        |
| 9983655649,313                                      |
| 40203224,161                                        |
| 9954714596,533                                      |
| 19997524470,007                                     |
| 2475529,993                                         |

| $3\sum y^2 L_x - 2(3\sum y^2 L_x) + 10(3\sum y L_x)$ |
|------------------------------------------------------|
| 1250544828                                           |
| 99853673128                                          |
| 98536731280                                          |
| 98536731280                                          |
| 1940430000                                           |
| 1940430000                                           |
| 312153516                                            |

259

| $100K-9992069511,000$       |
|-----------------------------|
| 793048,900                  |
| 1116975,335                 |
| 9979281280,873              |
| $\delta m_x$ 9973260816,108 |

260

| $x$            | $\delta m_x$ |
|----------------|--------------|
| 9999920695,110 |              |
| 9999603475,550 |              |
| 9999524170,660 |              |
| 9997620853,300 |              |
| 2854976,040    |              |
| 2854976,040    |              |
| 1116975,335    |              |
| 1116975,335    |              |
| 3              | 5088926,710  |
| 9999524170,660 |              |
| 4              | 4613097,370  |
| 9999524170,660 |              |
| 5              | 4137268,030  |
| 9999524170,660 |              |
| 6              | 3661438,690  |
| 9999524170,660 |              |
| 7              | 3185609,350  |
| 9999524170,660 |              |
| 8              | 2709780,010  |
| 9999524170,660 |              |
| 9              | 2233950,670  |
| 9999524170,660 |              |
| 10             | 1758121,330  |
| 9999524170,660 |              |
| 11             | 1282291,990  |
| 9999524170,660 |              |
| 12             | 806462,650   |

261

| $\delta m_x$   |
|----------------|
| 9973260816,108 |
| 5088926,710    |
| 9978349742,818 |
| 4613097,370    |
| 9982962840,188 |
| 4137268,030    |
| 9987100108,218 |
| 3661438,690    |
| 9990761546,90  |
| 3185609,350    |
| 9993947156,258 |
| 2709780,010    |
| 9996656936,268 |
| 2233950,670    |
| 9998890886,938 |
| 1758121,330    |
| 649002,268     |
| 1282291,990    |
| 1931300,258    |
| 806462,650     |
| 2737762,908    |

262

| $x$            | $m_x$          |
|----------------|----------------|
| 3              | 122536184,090  |
| 4              | 9973260816,108 |
| 5              | 95797000,198   |
| 9978349742,818 |                |
| 74146743,016   |                |
| 9982962840,188 |                |
| 57109583,204   |                |
| 9987100108,218 |                |
| 44209691,422   |                |
| 9990761546,908 |                |
| 34971238,330   |                |
| 9993947156,258 |                |
| 28918394,588   |                |
| 9996656936,268 |                |
| 25575330,856   |                |
| 9998890886,938 |                |
| 24466217,794   |                |
| 649002,268     |                |
| 25115226,062   |                |
| 1931300,258    |                |
| 27046324,320   |                |
| 2737762,908    |                |
| 29784285,228   |                |

263

| $L_x m_x$ | $x$ | $10^6 q_x$ |
|-----------|-----|------------|
| 140591    | 3   | 12,179     |
| 107116    | 4   | 9,534      |
| 85523     | 5   | 7,367      |
| 62021     |     | 5,695      |
| 46398     |     | 4,411      |
| 35387     |     | 3,491      |
| 28431     | 9   | 2,880      |
| 24623     | 10  | 2,554      |
| 23248     |     | 2,444      |
| 23734     |     | 2,508      |
| 25601     |     | 2,701      |
| 28426     | 14  | 2,974      |
| 63169     |     | 5,756      |
| 63169     |     |            |
| 63169     |     |            |

M-1895097 (5)

264

|                                                   |
|---------------------------------------------------|
| 11666100—P <sub>1901-A</sub> —P <sub>1910-A</sub> |
| 9764368—P <sub>1901-June-1</sub>                  |
| $r_{1901} \rightarrow 1,19476243$                 |
| 07728067,000                                      |
| 72000                                             |
| 14560                                             |
| 1,092                                             |
| $\log r_{1901} = 0,7728155,452$                   |
| $\log r = 0,7825980,204$                          |
| $\log r_{1910} = 0,0456515,512$                   |
| $\lambda r \rightarrow 1,801998,543$              |
| $r \rightarrow 1,1974566,4$                       |
| $r_{1910} \rightarrow 1,0105671,0$                |
| $\alpha \rightarrow 1,1073437,59$                 |
| $\beta \rightarrow 0,511522,985$                  |

265

| $x$ | 1910 | 1900 |
|-----|------|------|
| 100 | 66   | 77   |
| 101 | 18   | 21   |
| 102 | 13   | 15   |
| 103 | 9    | 10   |
| 104 | 9    | 10   |
| 105 | 6    | 7    |
| 106 | 5    | 6    |
| 107 | 5    | 6    |
| 108 | 1    | 1    |
| 109 |      |      |
| 110 | 1    | 1    |
| 111 | 1    | 1    |
| 112 |      |      |
| 113 |      |      |
| 114 | 1    | 1    |
| 115 | 1    | 1    |
| 136 | 157  | 100  |

158 136-1,161764,706

266  $\sum P_x$  and  $\sum P_x$

| $x$ | 1900   | 1910    |
|-----|--------|---------|
| 0   | 212913 | 246994  |
|     | 192081 | 220149  |
|     | 201087 | 240446  |
| 3   | 203444 | 236536  |
|     | 809525 | 944025  |
| 4   | 201067 | 227068  |
|     | 198375 | 221160  |
|     | 199073 | 220577  |
|     | 194928 | 215149  |
| 8   | 192272 | 210272  |
|     | 985715 | 1094226 |
| 9   | 184770 | 202694  |
|     | 188625 | 208958  |
|     | 176004 | 197363  |
|     | 177908 | 213633  |
| 13  | 172162 | 205386  |
|     | 899469 | 1028034 |
| 14  | 175051 | 207645  |
|     | 175345 | 200352  |
|     | 181198 | 222241  |
|     | 178306 | 215781  |
| 18  | 185433 | 238902  |
|     | 895933 | 1084921 |

To obtain the denominator in this equation,  $3\Sigma y^2 L_x$  was added to the complement of 21 times  $3\Sigma y^2 L_x$  and 110 times  $3\Sigma y^2 L_x$ , the quantities being taken from tape 257. The products of the last two by 21 and 110, respectively, were obtained by addition in the same way as those in tape 254.

259. Substituting the values of  $e$  and  $f$  from tape 253 in equations (65) on page 353, these become

$$\begin{aligned}\delta m_3 &= U - V + 90K. \\ \delta^2 m_3 &= 2U - 36K. \\ \delta^3 m_3 &= 6K.\end{aligned}\quad (90)$$

These equations and the equations for  $K$  in section 258 should be entered upon the table outlining the work when the computations are based upon  $q_3$ ,  $q_{13}$ , and  $q_{14}$  and the populations and deaths between these ages.

In computing  $K$  and  $m_x$  and its leading unit differences, all of which except  $K$  were computed to thirteen decimal places, the machine was split between banks 13-14 and the decimal point considered as coming between these two banks. A vertical line indicates the decimal point.

The value of  $K$  to the nearest twelfth decimal place was found to be  $-.000007930489$  by dividing the first total in tape 258 by the second. Since it is negative, one hundred times its complement was entered in tape 259 and ten times its actual value, or ten times the complement of its complement, was added to obtain the  $90K$  needed in the first of the equations (90) just above. To this was then added the value of  $U$  from tape 253 and the complement of  $V$  from tape 254, the total being  $\delta m_3$ . The decimal point is indicated by the vertical line. In actual practice time will be saved by combining the two steps indicated in tapes 259 and 261.

260. To the value of  $K$  was added ten times  $\frac{1}{2}K$ , or  $5K$ , to obtain the constant third difference,  $\delta^3 m_3$ . A subtotal was taken and to it was added ten times one-half its value, or  $30K$ , to obtain the  $36K$  needed in the second equation above. Since this  $36K$  is to be subtracted, its complement is set up and repeated twice, once to clear the machine and the second time to enter it upon the machine. Then the value of  $U$  from tape 253 is repeated twice and a subtotal taken, which is  $\delta^2 m_3$ . To this subtotal the constant third difference,  $\delta^3 m_3$ , obtained above, is added nine times, a subtotal being taken after each addition and a total at the end. In this way  $\delta^2 m_x$  for  $x=3$  to  $x=12$  were obtained. The decimal point is indicated by the vertical line.

261. To  $\delta m_3$  from tape 259 were added the  $\delta^2 m_x$  in tape 260, a subtotal being taken after each addition and a total at the end. This gives  $\delta m_x$  for  $x=3$  to  $x=13$ . As in tapes 258 to 260, 262, and 263, the decimal point is indicated by a vertical line.

262. To  $m_3$  from tape 252 were added the  $\delta m_x$  from tape 261, a subtotal being taken after each addition to give the values of  $m_x$  from  $x=3$  to  $x=14$ . Since

$m_3$  is given only to the twelfth decimal place, it was moved one place to the left in adding it to the  $\delta m_3$  which are given to the thirteenth decimal place. A check on the work to this point is that  $m_{13}$  and  $m_{14}$  agree to the eleventh decimal place with those in tape 252, as indicated by the mark  $\oplus$ .

263. Another check on the work thus far is to multiply the  $m_x$  obtained in tape 262 by the  $L_x$  in tape 257 to obtain the expected deaths. According to the assumption in equation (63) on page 352, the sum of the expected deaths must equal the actual, or 18,951 from tape 258. Since the actual deaths were for three years, the sum of the expected deaths was repeated three times and the final sum is 18,950.97, since the  $L_x m_x$  were taken to the nearest second decimal place.

On the right of tape 263 are entered the  $10^6 q_x$  obtained from  $m_x$  in tape 262 by the formula

$$q_x = \frac{2m_x}{2 + m_x} \quad (91)$$

It was found convenient to compute the values in the two columns of tape 263 in the following order:  $m_x$  to the nearest ninth decimal place was set upon the computing machine as one factor, leaving space on the left so that 2 could be set up in unit's place. This  $m_x$  was then multiplied by  $L_x$  and the product entered upon the left of tape 263. Then this product and  $L_x$  were cleared from the machine, the  $m_x$  was multiplied by 2, and the 2 then cleared from the machine. The regulator was then switched to division, 2 set up in unit's place of the divisor, and the  $2m_x$  divided by  $2 + m_x$  to obtain the value of  $q_x$ . The values of  $q_3$ ,  $q_{13}$ , and  $q_{14}$  are the same as in tape 250.

#### CALCULATION OF MEAN POPULATION OF WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES FOR THE PERIOD 1901-1910.

264. The total white female populations in the original registration states, enumerated on June 1, 1900, and April 15, 1910, were obtained from columns 2 and 3, respectively, of Table 174, page 465, and entered in tape 264 as  $P_{1910-June-1}$  and  $P_{1910-April-15}$ , respectively.

Their ratio,  $\frac{P_{1910-April-15}}{P_{1900-June-1}}$ ,  $r^{118.5/120}$ , carried to the nearest ninth significant figure, is entered just below. Beneath this is  $\log r^{118.5/120}$ , showing the three interpolations necessary when Bauschinger and Peters' eight-place logarithm table is used. This logarithm was divided by 118.5 and the quotient multiplied first by 120, the result being entered as  $\log r$ ; then the quotient was multiplied by seven, the result being entered as  $\log r^{7/120}$ . Space was left after these last two entries, and the computations necessary to obtain their antilogarithms are shown in ink.

$\log r$  was divided by .4342945 and the quotient set down on the machine as  $\lambda r$ . Beneath this is set down the value of  $r$  and of  $r^{7/120}$ , obtained from their logarithms. From these values,  $r^{7/120} (r-1)/\lambda r$  was obtained and entered as  $\alpha$ , according to equation (77)

REGRAUATION OF THE RATES OF MORTALITY OF WHITE FEMALES IN CITIES OF THE ORIGINAL REGISTRATION STATES, 1901, BETWEEN AGES 3 AND 13, TAPES 250-263, AND CALCULATION OF THE MEAN POPULATION OF WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES FOR THE PERIOD 1901-1910, BEGINNING WITH TAPE 264

PHOTOGRAPHS OF ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS

250

| $x$ | $u_x$ | $u_x^2$ | $10^4 q_x$ |
|-----|-------|---------|------------|
| 3   | -10   | -11     | 12,179     |
| 13  | -1    | 10      | 2,701      |
| 14  | 11    | 1       | 2,974      |
| 22  | 22    |         | 17,854     |

251

| $x$       | $10^4(2q_x)$ | $10^4(2-q_x)$ |
|-----------|--------------|---------------|
| 3         | 24,358       | 198,782       |
| 13        | 5,402        | 199,729       |
| 14        | 5,948        | 199,702       |
| 999982146 |              |               |
| (50)      | 17854        | 5982,146      |

252

| $x$          | $u_x$ | $10^4 m_x$ |
|--------------|-------|------------|
| 3            | 110   | 122,536    |
| 13           | -10   | 270,465    |
| 14           | 11    | 297,842    |
| 17936699,966 |       |            |

253

| $x$        | $10^4 U_x$  |
|------------|-------------|
| 3          | 111,396     |
| 13         | 270,465     |
| 14         | 270,662     |
| $10^4 U_x$ | 111,697,533 |

254

| $x$          | $10^4 V_x$ |
|--------------|------------|
| 3            | 207,187    |
| 13           | 207,187    |
| 14           | 207,187    |
| 20718719,127 |            |

255

| $x$ | $y$ | $y^2$ | $y^3$ |
|-----|-----|-------|-------|
| 3   | 1   | 1     | 1     |
| 4   | 2   | 4     | 8     |
| 5   | 3   | 9     | 27    |
| 6   | 4   | 16    | 64    |
| 7   | 5   | 25    | 125   |
| 8   | 6   | 36    | 216   |
| 9   | 7   | 49    | 343   |
| 10  | 8   | 64    | 512   |
| 11  | 9   | 81    | 729   |
| 12  | 10  | 100   | 1,000 |
| 13  | 11  | 121   | 1,331 |

256

| $x$     | $1901 P_x$ | $x-4$   |
|---------|------------|---------|
| 3       | 145,812    | 137,387 |
| 13      | 99,887     | 108,975 |
| 14      | 111,281    | 108,975 |
| 1147341 |            | 111,816 |

257

| $x$     | $10^4 L_x$ | $10^4 y_x L_x$ |
|---------|------------|----------------|
| 3       | 11,473     | 11,816         |
| 13      | 115,343    | 922,744        |
| 14      | 109,651    | 2,960,577      |
| 104,950 |            | 6,716,800      |
| 101,189 |            | 12,648,625     |
| 98,315  |            | 21,236,040     |
| 96,276  |            | 33,022,668     |
| 95,022  |            | 46,651,264     |
| 94,499  |            | 62,855,771     |
| 94,656  |            | 94,656,000     |
| 95,441  |            | 127,031,971    |
| 123,189 |            | 416,848,276    |
| 123,189 |            | 416,848,276    |
| 123,189 |            | 416,848,276    |
| 369,567 |            | 125,054,828    |

$3 \sum y^2 L_x$

| $x$           | $10^4 L_x$ | $10^4 y_x L_x$ |
|---------------|------------|----------------|
| 3             | 11,816     | 11,816         |
| 13            | 461,372    | 230,686        |
| 14            | 98,685     | 328,953        |
| 167,920       |            | 415,800        |
| 252,975       |            | 505,945        |
| 353,934       |            | 589,890        |
| 471,752       |            | 673,932        |
| 608,140       |            | 760,176        |
| 765,419       |            | 850,491        |
| 946,560       |            | 946,560        |
| 1,154,836     |            | 1,049,851      |
| 1,487,562     |            | 1,487,562      |
| 1,877,562     |            | 1,877,562      |
| 2,323,950     |            | 2,323,950      |
| 2,822,291     |            | 2,822,291      |
| 3,381,100     |            | 3,381,100      |
| 3,999,821     |            | 3,999,821      |
| 4,688,100     |            | 4,688,100      |
| 5,446,100     |            | 5,446,100      |
| 6,273,100     |            | 6,273,100      |
| 7,169,100     |            | 7,169,100      |
| 8,134,100     |            | 8,134,100      |
| 9,168,100     |            | 9,168,100      |
| 10,271,100    |            | 10,271,100     |
| 11,443,100    |            | 11,443,100     |
| 12,684,100    |            | 12,684,100     |
| 14,004,100    |            | 14,004,100     |
| 15,403,100    |            | 15,403,100     |
| 16,881,100    |            | 16,881,100     |
| 18,438,100    |            | 18,438,100     |
| 20,074,100    |            | 20,074,100     |
| 21,789,100    |            | 21,789,100     |
| 23,584,100    |            | 23,584,100     |
| 25,459,100    |            | 25,459,100     |
| 27,414,100    |            | 27,414,100     |
| 29,449,100    |            | 29,449,100     |
| 31,564,100    |            | 31,564,100     |
| 33,759,100    |            | 33,759,100     |
| 36,034,100    |            | 36,034,100     |
| 38,389,100    |            | 38,389,100     |
| 40,824,100    |            | 40,824,100     |
| 43,339,100    |            | 43,339,100     |
| 45,934,100    |            | 45,934,100     |
| 48,609,100    |            | 48,609,100     |
| 51,364,100    |            | 51,364,100     |
| 54,199,100    |            | 54,199,100     |
| 57,114,100    |            | 57,114,100     |
| 60,109,100    |            | 60,109,100     |
| 63,184,100    |            | 63,184,100     |
| 66,339,100    |            | 66,339,100     |
| 69,574,100    |            | 69,574,100     |
| 72,889,100    |            | 72,889,100     |
| 76,284,100    |            | 76,284,100     |
| 79,759,100    |            | 79,759,100     |
| 83,314,100    |            | 83,314,100     |
| 86,949,100    |            | 86,949,100     |
| 90,664,100    |            | 90,664,100     |
| 94,459,100    |            | 94,459,100     |
| 98,334,100    |            | 98,334,100     |
| 102,289,100   |            | 102,289,100    |
| 106,324,100   |            | 106,324,100    |
| 110,439,100   |            | 110,439,100    |
| 114,634,100   |            | 114,634,100    |
| 118,909,100   |            | 118,909,100    |
| 123,264,100   |            | 123,264,100    |
| 127,699,100   |            | 127,699,100    |
| 132,214,100   |            | 132,214,100    |
| 136,809,100   |            | 136,809,100    |
| 141,484,100   |            | 141,484,100    |
| 146,239,100   |            | 146,239,100    |
| 151,074,100   |            | 151,074,100    |
| 155,989,100   |            | 155,989,100    |
| 160,984,100   |            | 160,984,100    |
| 166,059,100   |            | 166,059,100    |
| 171,214,100   |            | 171,214,100    |
| 176,449,100   |            | 176,449,100    |
| 181,764,100   |            | 181,764,100    |
| 187,159,100   |            | 187,159,100    |
| 192,634,100   |            | 192,634,100    |
| 198,189,100   |            | 198,189,100    |
| 203,824,100   |            | 203,824,100    |
| 209,539,100   |            | 209,539,100    |
| 215,334,100   |            | 215,334,100    |
| 221,209,100   |            | 221,209,100    |
| 227,164,100   |            | 227,164,100    |
| 233,199,100   |            | 233,199,100    |
| 239,314,100   |            | 239,314,100    |
| 245,509,100   |            | 245,509,100    |
| 251,784,100   |            | 251,784,100    |
| 258,139,100   |            | 258,139,100    |
| 264,574,100   |            | 264,574,100    |
| 271,089,100   |            | 271,089,100    |
| 277,684,100   |            | 277,684,100    |
| 284,359,100   |            | 284,359,100    |
| 291,114,100   |            | 291,114,100    |
| 297,949,100   |            | 297,949,100    |
| 304,864,100   |            | 304,864,100    |
| 311,859,100   |            | 311,859,100    |
| 318,934,100   |            | 318,934,100    |
| 326,089,100   |            | 326,089,100    |
| 333,324,100   |            | 333,324,100    |
| 340,639,100   |            | 340,639,100    |
| 348,034,100   |            | 348,034,100    |
| 355,509,100   |            | 355,509,100    |
| 363,064,100   |            | 363,064,100    |
| 370,699,100   |            | 370,699,100    |
| 378,414,100   |            | 378,414,100    |
| 386,209,100   |            | 386,209,100    |
| 394,084,100   |            | 394,084,100    |
| 402,039,100   |            | 402,039,100    |
| 410,074,100   |            | 410,074,100    |
| 418,189,100   |            | 418,189,100    |
| 426,384,100   |            | 426,384,100    |
| 434,659,100   |            | 434,659,100    |
| 443,014,100   |            | 443,014,100    |
| 451,449,100   |            | 451,449,100    |
| 459,964,100   |            | 459,964,100    |
| 468,559,100   |            | 468,559,100    |
| 477,234,100   |            | 477,234,100    |
| 485,989,100   |            | 485,989,100    |
| 494,824,100   |            | 494,824,100    |
| 503,739,100   |            | 503,739,100    |
| 512,734,100   |            | 512,734,100    |
| 521,809,100   |            | 521,809,100    |
| 530,964,100   |            | 530,964,100    |
| 540,199,100   |            | 540,199,100    |
| 549,514,100   |            | 549,514,100    |
| 558,909,100   |            | 558,909,100    |
| 568,384,100   |            | 568,384,100    |
| 577,939,100   |            | 577,939,100    |
| 587,574,100   |            | 587,574,100    |
| 597,289,100   |            | 597,289,100    |
| 607,084,100   |            | 607,084,100    |
| 616,959,100   |            | 616,959,100    |
| 626,914,100   |            | 626,914,100    |
| 636,949,100   |            | 636,949,100    |
| 647,064,100   |            | 647,064,100    |
| 657,259,100   |            | 657,259,100    |
| 667,534,100   |            | 667,534,100    |
| 677,889,100   |            | 677,889,100    |
| 688,324,100   |            | 688,324,100    |
| 698,839,100   |            | 698,839,100    |
| 709,434,100   |            | 709,434,100    |
| 720,109,100   |            | 720,109,100    |
| 730,864,100   |            | 730,864,100    |
| 741,699,100   |            | 741,699,100    |
| 752,614,100   |            | 752,614,100    |
| 763,609,100   |            | 763,609,100    |
| 774,684,100   |            | 774,684,100    |
| 785,839,100   |            | 785,839,100    |
| 797,074,100   |            | 797,074,100    |
| 808,389,100   |            | 808,389,100    |
| 819,784,100   |            | 819,784,100    |
| 831,259,100   |            | 831,259,100    |
| 842,814,100   |            | 842,814,100    |
| 854,449,100   |            | 854,449,100    |
| 866,164,100   |            | 866,164,100    |
| 877,959,100   |            | 877,959,100    |
| 889,834,100   |            | 889,834,100    |
| 901,789,100   |            | 901,789,100    |
| 913,824,100   |            | 913,824,100    |
| 925,939,100   |            | 925,939,100    |
| 938,134,100   |            | 938,134,100    |
| 950,409,100   |            | 950,409,100    |
| 962,764,100   |            | 962,764,100    |
| 975,199,100   |            | 975,199,100    |
| 987,714,100   |            | 987,714,100    |
| 1,000,309,100 |            | 1,000,309,100  |
| 1,012,984,100 |            | 1,012,984,100  |
| 1,025,739,100 |            | 1,025,739,100  |
| 1,038,574,100 |            | 1,038,574,100  |
| 1,051,489,100 |            | 1,051,489,100  |
| 1,064,484,100 |            | 1,064,484,100  |
| 1,077,559,100 |            | 1,077,559,100  |
| 1,090,714,100 |            | 1,090,714,100  |
| 1,103,949,100 |            | 1,103,949,100  |
| 1,117,264,100 |            | 1,117,264,100  |
| 1,130,659,100 |            | 1,130,659,100  |
| 1,144,134,100 |            | 1,144,134,100  |
| 1,157,689,100 |            | 1,157,689,100  |
| 1,171,324,100 |            | 1,171,324,100  |
| 1,185,039,100 |            | 1,185,039,100  |
| 1,198,834,100 |            | 1,198,834,100  |
| 1,212,709,100 |            | 1,212,709,100  |
| 1,226,664,100 |            | 1,226,664,100  |
| 1,240,699,100 |            | 1,240,699,100  |
| 1,254,814,100 |            | 1,254,814,100  |
| 1,2           |            |                |

## UNITED STATES LIFE TABLES.

CALCULATION OF THE MEAN POPULATION OF WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES FOR THE PERIOD 1901-1910

PHOTOGRAPHS OF ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS

| 267         | 269       | 270       | 271           |
|-------------|-----------|-----------|---------------|
| $x$ 1900    | $x$ 1900  | $x$ 1910  | $x$ $\Delta$  |
| 0 309525    | 0 610533  | 0 944831  | 0 134296      |
| 4 965715    | 4 986945  | 4 1095160 | 4 108215      |
| 9 895469    | 9 900552  | 9 1020912 | 9 129320      |
| 655933      | 657051    | 1065848   | 168797        |
| 544023      | 945203    | 1153145   | 207942        |
| 940239      | 941413    | 1099500   | 158167        |
| 29 758489   | 29 759466 | 29 930766 | 29 131280     |
| 34 712141   | 34 713030 | 34 894364 | 34 161334     |
| 622054      | 620826    | 768074    | 148046        |
| 450042      | 490564    | 540822    | 142156        |
| 438974      | 436516    | 561576    | 123060        |
| 54 353983   | 54 354425 | 54 423439 | 54 69014      |
| 59 294180   | 59 294547 | 59 345210 | 59 50663      |
| 228196      | 225477    | 274273    | 48796         |
| 156723      | 156919    | 193579    | 36660         |
| 99978       | 100093    | 124750    | 24657         |
| 79 52711    | 79 52777  | 79 63212  | 79 10435      |
| 84 21652    | 84 21879  | 84 27870  | 84 5991       |
| 6191        | 6159      | 6105      | 1706          |
| 134         | 1336      | 1561      | 225           |
| 237         | 217       | 191       | 999999974     |
| 104 30      | 104 30    | 104 26    | 104 999999996 |
| 109 2       | 109 2     | 109 2     | 109           |
| 114 2       | 114 2     | 114 2     | 114           |
| 9752195     | 9764368   | 11666399  | 1901732       |
| 12173       | 12        | 8,998     | 9764368       |
| Age 9764368 | 11666,100 |           | 11666,100     |
| 268         |           |           |               |
| 79 13097    | 79 13113  | 79 15533  | 79 2420       |
| 14760       | 14770     | 17588     | 2810          |
| 9195        | 9208      | 10365     | 1153          |
| 8449        | 8460      | 10734     | 227           |
| 7210        | 7219      | 8992      | 1773          |
| 5271        | 5277      | 63212     | 10435         |
| 84 6365     | 84 6374   | 84 6118   | 84 1744       |
| 5331        | 5338      | 6911      | 1573          |
| 4053        | 4061      | 5213      | 1152          |
| 3453        | 3457      | 4264      | 807           |
| 2646        | 2649      | 3364      | 715           |
| 21852       | 21879     | 27870     | 5991          |
| 89 2033     | 89 2036   | 89 2643   | 89 607        |
| 1896        | 1898      | 2343      | 445           |
| 1023        | 1024      | 1257      | 233           |
| 835         | 836       | 1072      | 236           |
| 604         | 605       | 790       | 185           |
| 6391        | 6399      | 8105      | 1706          |
| 94 466      | 94 469    | 94 545    | 94 80         |
| 348         | 348       | 485       | 136           |
| 239         | 239       | 254       | 15            |
| 153         | 153       | 144       | 999999991     |
| 126         | 126       | 129       | 3             |
| 1334        | 1334      | 1566      | 1             |
| 99 93       | 99 93     | 99 85     | 99 999999992  |
| 77          | 77        | 66        | 999999998     |
| 21          | 21        | 18        | 999999997     |
| 15          | 15        | 13        | 999999998     |
| 103 11      | 103 11    | 103 9     | 999999998     |
| 217         | 217       | 191       | 4999999974    |
| 104 10      | 104 10    | 104 9     | 999999999     |
| 7           | 7         | 6         | 999999999     |
| 6           | 6         | 5         | 999999999     |
| 108 1       | 108 1     | 108 1     | 999999999     |
| 30          | 30        | 26        | 3999999996    |
| 109         | 109       | 109       |               |
| 110 1       | 110 1     | 110 1     |               |
| 111 1       | 111 1     | 111 1     |               |
| 112         | 112       | 112       |               |
| 113 2       | 113 2     | 113 2     |               |
| 114 1       | 114 1     | 114 1     |               |
| 115 1       | 115 1     | 115 1     |               |
| 2           | 2         | 2         |               |



on page 354. Then the value of the constant  $\beta = (\alpha - 1)/(r^{118.5/120} - 1)$  from equation (76) on page 354 was set down.

265. Since the census report for June 1, 1900, does not show the populations by single years of age 100 years and over, these were estimated by assuming that the populations by single ages for these years in 1900 and 1910 were proportional to the total populations 100 years of age and over in 1900 and in 1910.

The machine was split between banks 3-4, 5-6, 10-11, and 14-15.

On the left of tape 265 the ages were entered; then the populations by single years of age 100 years and over in 1910, taken from column 8 of Table 174 on page 465, are added. Beneath this is shown the ratio of the population 100 years and over in 1900 to that in 1910. This ratio is carried to the nearest tenth significant figure to fill the ten-place computing machine used. The integral parts of the products of this ratio times the numbers under 1910 in tape 265 are entered in corresponding positions in banks 6-8, while the fractions are entered in banks 1-3 to the nearest second decimal. When the fraction was .50 or over it was preceded by 9 in bank 3 and the integral part was increased by unity. This kept the total sum of integral parts plus fractions almost exactly correct. When the sum of the fractions was .50 or over, this indicated that another integral should be increased by unity, and the one whose fraction was nearest to .50 was selected. In this case 10.46, the population for age 103, was changed in ink to 11 plus 9.46, the 9 serving to subtract .54 from the total of the fractions instead of the .46 being added to it. This reduced the difference between the sum of fractions less than .50 and the sum of increases made in the integers to zero. Then the sum of the integral part was changed from 157 to 158, which is the number of persons 100 years of age and over in 1900. Since the population for ages 103 and 104 were the same, the increase was added to the younger age.

266. The populations enumerated on June 1, 1900, and April 15, 1910, by single years of age are shown in columns 2 and 3 and also in columns 7 and 8, respectively, of Table 174 on page 465. The fifth difference osculatory formula requires the original data in five-year groups. Hence labor was saved by determining the mean population for the period 1901-1910 by five-year groups instead of by single ages. The group required is 4-8, 9-13, 14-18, etc., thus leaving the group 0-3 unused. For checking purposes the mean population for this group is also obtained. Hence in tape 266 the additions of the first four groups, 0-3, 4-8, 9-13, and 14-18, are shown, the population in 1910 on the right, that for 1900 in the center, and the ages at the beginning and end of each group on the left.

267. The totals obtained in tape 266 were then added in groups of five, the group 0-3 being set off by itself. After the addition of these totals a subtotal

was taken and the populations of unknown ages, shown at the bottom of columns 7 and 8 of Table 174 on page 465, were added, giving as totals the population at all ages at the beginning of columns 2 and 3 of this table, and also at the beginning of tape 264. This serves as a check on the work.

268. Since the computation of the life table from tape 174 to tape 187 requires population by single years of age, beginning with age 79 and extending to the end of life, these were copied from columns 7 and 8 of Table 174, page 465, and from tape 265 for ages 100 years and over and added in groups of five. The total should agree with those shown for the same age groups in tape 267, as indicated by the mark @. Of course, in actual practice this work would be shown at end of tape 266.

269. In order to distribute the population of unknown ages among those of known ages, the ratios of the total population to that of known ages, as shown in the totals and subtotals of tape 267, respectively, were obtained to ten significant figures and the 1900 ratio entered at the beginning of tape 269. This ratio, 1.001248232, was set up on the computing machine and each of the numbers on the left of tapes 267 and 268 multiplied by it, the products being entered in tape 269 just opposite the factors. The machine was split between banks 3-4, 6-7, and 14-15, the integral parts being entered in the center and the fractions on the right. On the left the initial age of each two out of five groups was entered. As in tape 265, where the fraction is .50 or over, it is preceded by 9 in bank 3 and the integral part increased by unity. The total of the fractions less than .50 diminished by the additions made in increasing the integral part by unity is .02 and the sum of the integers is 9,764,368, which agrees with the corresponding total in tape 267.

The populations by single years of age from 79 years to the end of life were then added in groups of five and their totals checked to those for the same age groups above, as indicated by the sign @. In the group 79-83 the total of the integers is 52,776 and that of the fractions .80, showing that another integer should be increased by unity. Accordingly, the population for age 81, whose fraction is .48, was increased by unity, 9 placed before the fraction, the total of the integers increased to 52,777, and 9 added in bank 3 in the total of the fractions; this result agrees with the one for this group shown above. These changes were made in ink.

270. Work for 1910, similar to that for 1900 in tape 269, is shown in tape 270. The ratio of total population to population of known ages, 1.000853884, is entered at the top and the numbers on the right of tapes 267 and 268 multiplied by it.

271. The integral parts of tape 269 were subtracted from corresponding integral parts of tape 270 and the remainders entered in corresponding positions in tape 271. Where the remainders were negative their complements were entered. At the end a subtotal was taken and 9,764,368, the total population from the



left side of tape 267, was added to it, so that the final total is 11,666,100, the population in 1910 from the right side of tape 267, and this served as a check on the work, as indicated by the mark  $\odot$ . The differences of population by single years of age were summed in five-year groups and their totals compared with the differences for the same age group just above, the equality being indicated by the sign  $\odot$ .

272. The factor  $\beta$  from tape 264 was then set up on the computing machine and multiplied by each of the differences in tape 271, the ages being entered on the left, the integral part of the product in the center, and the fractions on the right of tape 272. In the case of negative differences,  $\beta$  was multiplied by their complements, and then the complements of the products were entered upon the machine. Since the sum of the fractions which were dropped, diminished by the increases required to raise the integers by unity, is 8.94, it appears that one more increase was made than is required by the sum of the fractions. Hence, of the integers that were increased by unity the one having the smallest fraction was reduced. Accordingly, 74,018 was reduced to 74,017 and the 9 preceding its fraction was dropped, so that the total of the integers became 1,048,144 and that of the fractions 9.94, which indicates that the sum of the increases exceeds that of the fractions that were dropped by .06.

Then the sum of the differences in tape 271 was multiplied by  $\beta$  and the product entered just below the total taken on the machine. It will be noted that they agree exactly, and this serves as a check on the work.

The sum of the fractions in group 104-108 is 1.80, showing that two integers should have been increased by unity. Since all four differences in this group are equal, those for ages 104 and 105 were increased to zero. Hence, the fractions for these ages were preceded by 9's, the total of the integers increased to minus 2, or 9,999,998, and that for the fractions reduced to 9.80, which agrees with the product shown above for this group.

273.  $\alpha = 1.107343759$  was then set up on the computing machine and multiplied by  $P_{1900-June-1}$  from tape 264, the total number of females on June 1, 1900, and the product to the nearest integer entered upon the adding machine. This value was obtained according to equation (77) on page 354.

274. The integral parts of the products in tape 272 were then added to the corresponding populations in tape 269 and the sums set down in tape 274. These values were obtained according to equation (76) on page 354, and it will be noted that the total mean populations by these two processes are equal, as indicated by the mark  $\odot$ .

The populations by single ages 79 years and over were then added in groups of five and their totals compared with those for the same groups shown above, as indicated by the mark  $\odot$ .

# CALCULATION OF THE MEAN POPULATION OF WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES FOR THE PERIOD 1901-1910

PHOTOGRAPHS OF ADDING MACHINE TAPES USED IN  
CONNECTION WITH NUMERICAL COMPUTATIONS

| 272 | $x$ | $\beta \Delta$                     | 274 | $x$ | $\pi_0 + \beta \Delta$<br>Mean Population<br>1901 - 1910 |
|-----|-----|------------------------------------|-----|-----|----------------------------------------------------------|
|     |     | $\beta = .5511522885*$             |     |     |                                                          |
|     | 0   | 740187 855                         |     | 0   | 884,552                                                  |
|     | 4   | 59643 994                          |     | 4   | 1046,588                                                 |
|     | 9   | 70724 986                          |     | 9   | 971,316                                                  |
|     |     | 104056 990                         |     |     | 1001,107                                                 |
|     |     | 114606 971                         |     |     | 1059,811                                                 |
|     |     | 67174 10                           |     |     | 1028,587                                                 |
|     | 29  | 72355 27                           |     | 29  | 871,841                                                  |
|     | 34  | 99943 965                          |     | 34  | 812,973                                                  |
|     |     | 81596 969                          |     |     | 702,424                                                  |
|     |     | 78351 971                          |     |     | 577,011                                                  |
|     |     | 68927 11                           |     |     | 505,445                                                  |
|     | 54  | 38037 22                           |     | 54  | 392,462                                                  |
|     | 59  | 27923 3                            |     | 59  | 322,470                                                  |
|     |     | 26094 3                            |     |     | 252,371                                                  |
|     |     | 20205 24                           |     |     | 177,124                                                  |
|     |     | 13590 976                          |     |     | 113,683                                                  |
|     | 79  | 5751 (58) 27                       |     | 79  | 56,528 (59)                                              |
|     | 84  | 3302 995                           |     | 84  | 29,181                                                   |
|     |     | 940 27                             |     |     | 7,339                                                    |
|     |     | 124 1                              |     |     | 1,460                                                    |
|     |     | 999966 967                         |     |     | 203                                                      |
|     | 104 | 999998 980                         |     | 104 | 23                                                       |
|     | 109 |                                    |     | 109 | 2                                                        |
|     | 114 |                                    |     | 114 | 2                                                        |
|     |     | 1048144 11,8948                    |     |     | 10612,512 (60)                                           |
|     |     | 1048144 9948                       |     |     |                                                          |
|     | 79  | 1334 979                           |     | 79  | 14,447                                                   |
|     |     | 1549 974                           |     |     | 16,327                                                   |
|     |     | 638 23                             |     |     | 9,045                                                    |
|     |     | 1253 32                            |     |     | 9,713                                                    |
|     |     | 977 19                             |     |     | 2,196                                                    |
|     | 83  | 5751 (58) 2, 27*                   |     | 83  | 56,520 (59)                                              |
|     | 84  | 961 21                             |     | 84  | 7,335                                                    |
|     |     | 867 996                            |     |     | 6,205                                                    |
|     |     | 633 993                            |     |     | 4,696                                                    |
|     |     | 445 978                            |     |     | 3,902                                                    |
|     |     | 394 7                              |     |     | 3,043                                                    |
|     | 88  | 3302 2,995*                        |     | 88  | 25,181*                                                  |
|     | 89  | 335 955                            |     | 89  | 2,371                                                    |
|     |     | 285 26                             |     |     | 2,143                                                    |
|     |     | 128 42                             |     |     | 1,152                                                    |
|     |     | 130 7                              |     |     | 966                                                      |
|     |     | 102 996                            |     |     | 707                                                      |
|     | 93  | 940 2, 26*                         |     | 93  | 7,339*                                                   |
|     | 94  | 44 9                               |     | 94  | 513                                                      |
|     |     | 75 996                             |     |     | 424                                                      |
|     |     | 6 27                               |     |     | 247                                                      |
|     |     | 999995 4                           |     |     | 140                                                      |
|     |     | 2 965                              |     |     | 128                                                      |
|     | 98  |                                    |     | 98  | 1,460*                                                   |
|     | 1   | 124 2, 1*                          |     |     |                                                          |
|     | 99  | 999996 959                         |     | 99  | 89                                                       |
|     |     | 999994 994                         |     |     | 71                                                       |
|     |     | 999998 35                          |     |     | 19                                                       |
|     |     | 999999 990                         |     |     | 14                                                       |
|     | 103 | 999999 990                         |     | 103 | 10                                                       |
|     |     | 4999986 3,968*                     |     |     | 203*                                                     |
|     | 104 | 999999 945                         |     | 104 | 9                                                        |
|     |     | 999999 945                         |     |     | 6                                                        |
|     |     | 999999 45                          |     |     | 6                                                        |
|     | 108 |                                    |     | 108 | 1                                                        |
|     |     | 3999998 9, 180*                    |     |     | 28*                                                      |
|     |     |                                    |     | 109 | 1                                                        |
|     |     |                                    |     | 110 | 1                                                        |
|     |     |                                    |     | 111 |                                                          |
|     |     |                                    |     | 112 |                                                          |
|     |     |                                    |     | 113 |                                                          |
| 273 |     |                                    |     |     | 2*                                                       |
|     |     |                                    |     | 114 | 1                                                        |
|     |     |                                    |     | 115 | 1                                                        |
|     |     |                                    |     |     | 2*                                                       |
|     |     | 9764368 $\alpha = 10812,512*$ (60) |     |     |                                                          |

TABULAR OUTLINE FOR CONSTRUCTION OF  
EACH LIFE TABLE

(415)

TABLE 135

TABULAR OUTLINE FOR CON

GIVING AGES AND SOURCES OF DATA TO WHICH THE PROCESSES DESCRIBED IN SECTIONS 137 TO 274

| Number of table. | LIFE TABLE.                        | Birth data used: computed, C, and registered, R. | Quinquennial age group used for osculatory interpolation. | DATA USED IN JOINING $q_x$ IN TAPES 146 AND 173 BY METHOD SHOWN IN TAPES 250 TO 263. |           |                      |           |             |           |
|------------------|------------------------------------|--------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------------------------------------------|-----------|----------------------|-----------|-------------|-----------|
|                  |                                    |                                                  |                                                           | Single ages of population from—                                                      |           | Sums of deaths from— |           | $q_x$ from— |           |
|                  |                                    |                                                  |                                                           | Original statistics.                                                                 | Tape 151. | Original statistics. | Tape 168. | Tape 146.   | Tape 173. |
| 1                | 2                                  | 3                                                | 4                                                         | 5                                                                                    | 6         | 7                    | 8         | 9           | 10        |
|                  | ORIGINAL REGISTRATION STATES:      |                                                  | Ages.                                                     | Ages.                                                                                | Ages.     | Ages.                | Ages.     | Ages.       | Ages.     |
|                  | Both sexes—                        |                                                  |                                                           |                                                                                      |           |                      |           |             |           |
| 1                | 1901.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
| 2                | 1910.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
|                  | Males—                             |                                                  |                                                           |                                                                                      |           |                      |           |             |           |
| 3                | 1901.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
| 4                | 1910.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
|                  | Females—                           |                                                  |                                                           |                                                                                      |           |                      |           |             |           |
| 5                | 1901.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
| 6                | 1910.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
|                  | White males—                       |                                                  |                                                           |                                                                                      |           |                      |           |             |           |
| 7                | 1901.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
| 8                | 1901-1910.....                     | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
| 9                | 1910.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
|                  | White females—                     |                                                  |                                                           |                                                                                      |           |                      |           |             |           |
| 10               | 1901.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
| 11               | 1901-1910.....                     | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
| 12               | 1910.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
|                  | Negro males—                       |                                                  |                                                           |                                                                                      |           |                      |           |             |           |
| 13               | 1901.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
| 14               | 1901-1910.....                     | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
| 15               | 1910.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
|                  | Negro females—                     |                                                  |                                                           |                                                                                      |           |                      |           |             |           |
| 16               | 1901.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
| 17               | 1901-1910.....                     | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
| 18               | 1910.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
|                  | Native white males—                |                                                  |                                                           |                                                                                      |           |                      |           |             |           |
| 19               | 1901.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
| 20               | 1910.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
|                  | Native white females—              |                                                  |                                                           |                                                                                      |           |                      |           |             |           |
| 21               | 1901.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
| 22               | 1910.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
|                  | Foreign-born white males—          |                                                  |                                                           |                                                                                      |           |                      |           |             |           |
| 23               | 1901.....                          |                                                  | 4-8                                                       |                                                                                      |           |                      |           |             |           |
| 24               | 1910.....                          |                                                  | 4-8                                                       |                                                                                      |           |                      |           |             |           |
|                  | Foreign-born white females—        |                                                  |                                                           |                                                                                      |           |                      |           |             |           |
| 25               | 1901.....                          |                                                  | 4-8                                                       |                                                                                      |           |                      |           |             |           |
| 26               | 1910.....                          |                                                  | 4-8                                                       |                                                                                      |           |                      |           |             |           |
|                  | White males in cities—             |                                                  |                                                           |                                                                                      |           |                      |           |             |           |
| 27               | 1901.....                          | C                                                | 5-9                                                       |                                                                                      |           |                      |           |             |           |
| 28               | 1910.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
|                  | White females in cities—           |                                                  |                                                           |                                                                                      |           |                      |           |             |           |
| 29               | 1901.....                          | C                                                | 5-9                                                       | 3-4                                                                                  | 5-14      | 3-14                 |           | 3           | 13-14     |
| 30               | 1910.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
|                  | White males in rural part—         |                                                  |                                                           |                                                                                      |           |                      |           |             |           |
| 31               | 1901.....                          | C                                                | 5-9                                                       | 3-4                                                                                  | 5-9       | 3-9                  |           | 3           | 8-9       |
| 32               | 1910.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
|                  | White females in rural part—       |                                                  |                                                           |                                                                                      |           |                      |           |             |           |
| 33               | 1901.....                          | C                                                | 5-9                                                       | 3-4                                                                                  | 5-14      | 3-14                 |           | 3           | 13-14     |
| 34               | 1910.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
|                  | DISTRICT OF COLUMBIA: <sup>1</sup> |                                                  |                                                           |                                                                                      |           |                      |           |             |           |
| 35               | Negro males: 1901-1910.....        | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
| 36               | Negro females: 1901-1910.....      | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
|                  | INDIANA:                           |                                                  |                                                           |                                                                                      |           |                      |           |             |           |
|                  | Males—                             |                                                  |                                                           |                                                                                      |           |                      |           |             |           |
| 37               | 1901.....                          | C                                                | 5-9                                                       |                                                                                      |           |                      |           |             |           |
| 38               | 1910.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |
|                  | Females—                           |                                                  |                                                           |                                                                                      |           |                      |           |             |           |
| 39               | 1901.....                          | C                                                | 5-9                                                       | 3-9                                                                                  |           | 3-9                  |           | 3           | 8-9       |
| 40               | 1910.....                          | C                                                | 4-8                                                       |                                                                                      |           |                      |           |             |           |

<sup>1</sup> See Type V in section 275, page 423, and the fourth paragraph in section 270, page 424.

STRUCTION OF EACH LIFE TABLE.

TABLE 135

WERE APPLIED TO OBTAIN THE RATES OF MORTALITY UPON WHICH THE LIFE TABLES WERE BASED.

| Number of table. | CONSTANTS IN WITTSTEIN'S FORMULA BASED ON $q_x$ FROM— |              | $q_x$ TO BE GRADUATED BY SPENCER'S 21-TERM FORMULA FROM— |              |              | $q_x$ ON WHICH LIFE TABLES WERE BASED FROM— |              |              |              |              |              |
|------------------|-------------------------------------------------------|--------------|----------------------------------------------------------|--------------|--------------|---------------------------------------------|--------------|--------------|--------------|--------------|--------------|
|                  | Tape 173.                                             | Tape 186.    | Tape 173.                                                | Tape 186.    | Tape 205.    | Tape 116.                                   | Tape 23.     | Tape 173.    | Tape 186.    | Tape 226.    | Tape 205.    |
| 11               | 12                                                    | 13           | 14                                                       | 15           | 16           | 17                                          | 18           | 19           | 20           | 21           | 22           |
|                  | <i>Ages.</i>                                          | <i>Ages.</i> | <i>Ages.</i>                                             | <i>Ages.</i> | <i>Ages.</i> | <i>Ages.</i>                                | <i>Ages.</i> | <i>Ages.</i> | <i>Ages.</i> | <i>Ages.</i> | <i>Ages.</i> |
| 1                | .....                                                 | (1)          | (1)                                                      | (1)          | (1)          | 0-4                                         | .....        | 5-75         | .....        | (1)          | (1)          |
| 2                | .....                                                 | (1)          | (1)                                                      | (1)          | (1)          | 0-4                                         | .....        | 5-88         | .....        | 89           | (1)          |
| 3                | .....                                                 | 86-95        | 60-89                                                    | .....        | 90-115       | 0-4                                         | .....        | 5-76         | .....        | 77-98        | 99-115       |
| 4                | .....                                                 | 95-104       | 70-88                                                    | 89-102       | 103-115      | 0-4                                         | .....        | 5-83         | .....        | 84-100       | 101-115      |
| 5                | .....                                                 | 87-96        | 60-89                                                    | 90-94        | 95-115       | 0-4                                         | .....        | 5-75         | .....        | 76-101       | 102-115      |
| 6                | .....                                                 | 95-104       | 70-94                                                    | 95-102       | 103-115      | 0-4                                         | .....        | 5-84         | .....        | 85-104       | 105-115      |
| 7                | .....                                                 | 86-95        | 60-89                                                    | .....        | 90-115       | 0-4                                         | .....        | 5-76         | .....        | 77-99        | 100-115      |
| 8                | .....                                                 | 89-98        | 70-89                                                    | 90-98        | 97-115       | 0-4                                         | .....        | 5-82         | .....        | 83-99        | 100-115      |
| 9                | .....                                                 | 95-104       | 70-89                                                    | 90-101       | 102-115      | 0-4                                         | .....        | 5-85         | .....        | 88-103       | 104-115      |
| 10               | .....                                                 | 87-96        | 60-88                                                    | 80-94        | 95-115       | 0-4                                         | .....        | 5-70         | .....        | 71-101       | 102-115      |
| 11               | .....                                                 | 96-105       | 70-88                                                    | 89-100       | 101-115      | 0-4                                         | .....        | 5-87         | .....        | 88-104       | 105-115      |
| 12               | .....                                                 | 95-104       | 70-94                                                    | 95-102       | 103-115      | 0-4                                         | .....        | 5-85         | .....        | 86-105       | 106-115      |
| 13               | .....                                                 | 80-99        | 50-80                                                    | 81-83        | 84-115       | 0-4                                         | .....        | 5-73         | .....        | 74-94        | 95-115       |
| 14               | .....                                                 | 86-95        | 50-74                                                    | 75-88        | 87-115       | 0-4                                         | .....        | 5-64         | .....        | 65-95        | 96-115       |
| 15               | .....                                                 | 93-102       | 70-89                                                    | 90-93        | 91-115       | 0-4                                         | .....        | 5-79         | .....        | 80-103       | 104-115      |
| 16               | .....                                                 | 85-99        | 50-97                                                    | .....        | 98-115       | 0-4                                         | .....        | 5-74         | .....        | 75-101       | 102-115      |
| 17               | .....                                                 | 88-97        | 50-83                                                    | .....        | 84-115       | 0-4                                         | .....        | 5-74         | .....        | 75-93        | 94-115       |
| 18               | .....                                                 | 93-102       | 70-89                                                    | 90-100       | 101-115      | 0-4                                         | .....        | 5-79         | .....        | 80-103       | 104-115      |
| 19               | .....                                                 | 87-96        | 60-89                                                    | .....        | 90-115       | 0-4                                         | .....        | 5-71         | .....        | 72-91        | 92-115       |
| 20               | .....                                                 | 95-104       | 70-89                                                    | 90-97        | 98-115       | 0-4                                         | .....        | 5-82         | .....        | 83-105       | 106-115      |
| 21               | .....                                                 | 87-96        | 60-88                                                    | 89-94        | 95-115       | 0-4                                         | .....        | 5-72         | .....        | 73-99        | 100-115      |
| 22               | .....                                                 | 93-102       | 70-90                                                    | 91-99        | 100-115      | 0-4                                         | .....        | 5-84         | .....        | 85-103       | 104-115      |
| 23               | .....                                                 | 86-95        | 60-89                                                    | .....        | 90-115       | .....                                       | .....        | 5-74         | .....        | 75-89        | 90-115       |
| 24               | .....                                                 | 95-104       | 70-90                                                    | 91-99        | 100-115      | .....                                       | .....        | 5-84         | .....        | 85-104       | 105-115      |
| 25               | .....                                                 | 85-94        | 60-89                                                    | .....        | 90-115       | .....                                       | .....        | 5-72         | .....        | 73-95        | 96-115       |
| 26               | .....                                                 | 96-105       | 70-89                                                    | 90-102       | 103-115      | .....                                       | .....        | 5-84         | .....        | 85-105       | 106-115      |
| 27               | 80-94                                                 | .....        | 60-87                                                    | .....        | 88-115       | 0-4                                         | .....        | 5-85         | .....        | 86-96        | 97-115       |
| 28               | .....                                                 | 95-104       | 70-89                                                    | 90-99        | 100-115      | 0-4                                         | .....        | 5-85         | .....        | 86-103       | 104-115      |
| 29               | 80-94                                                 | .....        | 60-92                                                    | .....        | 93-115       | 0-3                                         | 4-12         | 13-74        | .....        | 75-102       | 103-115      |
| 30               | .....                                                 | 96-105       | 70-91                                                    | 92-101       | 102-115      | 0-4                                         | .....        | 5-83         | .....        | 84-105       | 106-115      |
| 31               | 80-94                                                 | .....        | 60-91                                                    | .....        | 92-115       | 0-3                                         | 4-7          | 8-72         | .....        | 73-96        | 97-115       |
| 32               | .....                                                 | 96-105       | 70-89                                                    | 90-99        | 100-115      | 0-4                                         | .....        | 5-85         | .....        | 86-105       | 106-115      |
| 33               | 80-94                                                 | .....        | 60-94                                                    | .....        | 95-115       | 0-3                                         | 4-12         | 13-75        | .....        | 76-101       | 102-115      |
| 34               | .....                                                 | 92-101       | 70-94                                                    | 95-99        | 100-115      | 0-4                                         | .....        | 5-83         | .....        | 84-99        | 100-115      |
| 35               | .....                                                 | 82-101       | 50-74                                                    | 75-87        | 88-115       | 0-4                                         | .....        | 5-64         | .....        | 65-105       | 106-115      |
| 36               | 93-102                                                | .....        | 50-98                                                    | .....        | 99-115       | 0-4                                         | .....        | 5-60         | .....        | 61-102       | 103-115      |
| 37               | 80-94                                                 | .....        | 60-86                                                    | .....        | 87-115       | 0-4                                         | .....        | 5-70         | .....        | 71-95        | 96-115       |
| 38               | .....                                                 | 92-101       | 70-90                                                    | 91-99        | 100-115      | 0-4                                         | .....        | 5-84         | .....        | 85-104       | 105-115      |
| 39               | 79-93                                                 | .....        | 60-91                                                    | .....        | 92-115       | 0-3                                         | 4-7          | 8-75         | .....        | 76-98        | 97-115       |
| 40               | .....                                                 | 92-101       | 70-89                                                    | 90-99        | 100-115      | 0-4                                         | .....        | 5-84         | .....        | 83-105       | 106-115      |

<sup>1</sup> The Wittstein and Spencer formulas were not used directly in computing the both sexes rates of mortality; instead the averages of the rates of mortality in the male and female life tables were used from ages 76 to 115 for the 1901 both sexes life table and from ages 90 to 115 for the 1910 both sexes life table.

TABLE 135

TABULAR OUTLINE FOR CON

GIVING AGES AND SOURCES OF DATA TO WHICH THE PROCESSES DESCRIBED IN SECTIONS 137 TO 274

| Number of table. | LIFE TABLE.             | Birth data used: computed, C, and registered, R. | Quinquennial age group used for osculatory interpolation. | DATA USED IN JOINING $q_x$ IN TAPES 146 AND 173 BY METHOD SHOWN IN TAPES 250 TO 263. |              |                      |              |              |              |
|------------------|-------------------------|--------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------------------------------------------|--------------|----------------------|--------------|--------------|--------------|
|                  |                         |                                                  |                                                           | Single ages of population from—                                                      |              | Sums of deaths from— |              | $q_x$ from—  |              |
|                  |                         |                                                  |                                                           | Original statistics.                                                                 | Tape 161.    | Original statistics. | Tape 168.    | Tape 146.    | Tape 173.    |
| 1                | 2                       | 3                                                | 4                                                         | 5                                                                                    | 6            | 7                    | 8            | 9            | 10           |
|                  | <b>MASSACHUSETTS:</b>   |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
|                  | Males—                  |                                                  | <i>Ages.</i>                                              | <i>Ages.</i>                                                                         | <i>Ages.</i> | <i>Ages.</i>         | <i>Ages.</i> | <i>Ages.</i> | <i>Ages.</i> |
| 41               | 1890 <sup>1</sup> ..... | C                                                | 5-9                                                       | 3-4                                                                                  | 5-16         | 3-14                 | 15-16        | 3            | 15-16        |
| 42               | 1901.....               | R                                                | 5-9                                                       |                                                                                      |              |                      |              |              |              |
| 43               | 1910.....               | R                                                | 4-8                                                       |                                                                                      |              |                      |              |              |              |
|                  | Females—                |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
| 44               | 1890 <sup>1</sup> ..... | C                                                | 5-9                                                       | 3-4                                                                                  | 5-16         | 3-14                 | 15-16        | 3            | 15-16        |
| 45               | 1901.....               | R                                                | 5-9                                                       | 3-14                                                                                 |              | 3-14                 |              | 3            | 13-14        |
| 46               | 1910.....               | R                                                | 4-8                                                       |                                                                                      |              |                      |              |              |              |
|                  | <b>MICHIGAN:</b>        |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
|                  | Males—                  |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
| 47               | 1901.....               | C                                                | 5-9                                                       |                                                                                      |              |                      |              |              |              |
| 48               | 1910.....               | C                                                | 4-8                                                       |                                                                                      |              |                      |              |              |              |
|                  | Females—                |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
| 49               | 1901.....               | C                                                | 5-9                                                       | 3-14                                                                                 |              | 3-14                 |              | 3            | 13-14        |
| 50               | 1910.....               | C                                                | 4-8                                                       |                                                                                      |              |                      |              |              |              |
|                  | <b>NEW JERSEY:</b>      |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
|                  | Males—                  |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
| 51               | 1901.....               | C                                                | 5-9                                                       |                                                                                      |              |                      |              |              |              |
| 52               | 1910.....               | C                                                | 4-8                                                       |                                                                                      |              |                      |              |              |              |
|                  | Females—                |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
| 53               | 1901.....               | C                                                | 5-9                                                       |                                                                                      |              |                      |              |              |              |
| 54               | 1910.....               | C                                                | 4-8                                                       |                                                                                      |              |                      |              |              |              |
|                  | <b>NEW YORK:</b>        |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
|                  | Males—                  |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
| 55               | 1901.....               | C                                                | 5-9                                                       |                                                                                      |              |                      |              |              |              |
| 56               | 1910.....               | C                                                | 4-8                                                       |                                                                                      |              |                      |              |              |              |
|                  | Females—                |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
| 57               | 1901.....               | C                                                | 5-9                                                       | 3-14                                                                                 |              | 3-14                 |              | 3            | 13-14        |
| 58               | 1910.....               | C                                                | 4-8                                                       |                                                                                      |              |                      |              |              |              |
|                  | <b>BOSTON:</b>          |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
|                  | Males—                  |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
| 59               | 1901.....               | R                                                | 5-9                                                       | 3-4                                                                                  | 5-16         | 3-14                 | 15-16        | 3            | 15-16        |
| 60               | 1910.....               | R                                                | 5-9                                                       | 3-4                                                                                  | 5-10         | 3-9                  | 10           | 3            | 9-10         |
|                  | Females—                |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
| 61               | 1901.....               | R                                                | 5-9                                                       | 3-4                                                                                  | 5-16         | 3-14                 | 15-16        | 3            | 15-16        |
| 62               | 1910.....               | R                                                | 5-9                                                       | 3-4                                                                                  | 5-10         | 3-9                  | 10           | 3            | 9-10         |
|                  | <b>CHICAGO:</b>         |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
|                  | Males—                  |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
| 63               | 1901.....               | C                                                | 5-9                                                       |                                                                                      |              |                      |              |              |              |
| 64               | 1910.....               | C                                                | 5-9                                                       |                                                                                      |              |                      |              |              |              |
|                  | Females—                |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
| 65               | 1901.....               | C                                                | 5-9                                                       | 3-4                                                                                  | 5-16         | 3-14                 | 15-16        | 3            | 15-16        |
| 66               | 1910.....               | C                                                | 5-9                                                       |                                                                                      |              |                      |              |              |              |
|                  | <b>NEW YORK CITY:</b>   |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
|                  | Males—                  |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
| 67               | 1901.....               | C                                                | 5-9                                                       |                                                                                      |              |                      |              |              |              |
| 68               | 1910.....               | R                                                | 5-9                                                       |                                                                                      |              |                      |              |              |              |
|                  | Females—                |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
| 69               | 1901.....               | C                                                | 5-9                                                       | 3-4                                                                                  | 5-14         | 3-14                 |              | 3            | 13-14        |
| 70               | 1910.....               | R                                                | 5-9                                                       |                                                                                      |              |                      |              |              |              |
|                  | <b>PHILADELPHIA:</b>    |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
|                  | Males—                  |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
| 71               | 1901.....               | C                                                | 5-9                                                       | 3-4                                                                                  | 5-14         | 3-14                 |              | 3            | 13-14        |
| 72               | 1910.....               | R                                                | 5-9                                                       |                                                                                      |              |                      |              |              |              |
|                  | Females—                |                                                  |                                                           |                                                                                      |              |                      |              |              |              |
| 73               | 1901.....               | C                                                | 5-9                                                       | 3-4                                                                                  | 5-14         | 3-14                 |              | 3            | 13-14        |
| 74               | 1910.....               | R                                                | 5-9                                                       | 3-4                                                                                  | 5-14         | 3-14                 |              | 3            | 13-14        |

<sup>1</sup> See second paragraph of Type VI in section 275, page 423, and the last paragraph in section 276, page 424.

STRUCTION OF EACH LIFE TABLE.

TABLE 135

WERE APPLIED TO OBTAIN THE RATES OF MORTALITY UPON WHICH THE LIFE TABLES WERE BASED.

| Number of table. | CONSTANTS IN WITTSTEIN'S FORMULA BASED ON $q_x$ FROM— |              | $q_x$ TO BE GRADUATED BY SPENCER'S 21-TERM FORMULA FROM— |              |              | $q_x$ ON WHICH LIFE TABLES WERE BASED FROM— |              |              |              |              |              |
|------------------|-------------------------------------------------------|--------------|----------------------------------------------------------|--------------|--------------|---------------------------------------------|--------------|--------------|--------------|--------------|--------------|
|                  | Tape 173.                                             | Tape 186.    | Tape 173.                                                | Tape 186.    | Tape 205.    | Tape 116.                                   | Tape 213.    | Tape 173.    | Tape 186.    | Tape 226.    | Tape 205.    |
| 11               | 12                                                    | 13           | 14                                                       | 15           | 16           | 17                                          | 18           | 19           | 20           | 21           | 22           |
|                  | <i>Ages.</i>                                          | <i>Ages.</i> | <i>Ages.</i>                                             | <i>Ages.</i> | <i>Ages.</i> | <i>Ages.</i>                                | <i>Ages.</i> | <i>Ages.</i> | <i>Ages.</i> | <i>Ages.</i> | <i>Ages.</i> |
| 41               | 78-92                                                 | .....        | 50-82                                                    | .....        | 83-115       | 0-3                                         | 4-14         | 15-65        | .....        | 68-106       | 106-115      |
| 42               | 80-94                                                 | .....        | 60-89                                                    | .....        | 97-115       | 0-4                                         | .....        | 5-75         | .....        | 76-97        | 98-115       |
| 43               | .....                                                 | 91-100       | 70-89                                                    | 90-98        | 99-115       | 0-4                                         | .....        | 5-82         | .....        | 83-104       | 105-115      |
| 44               | 78-92                                                 | .....        | 60-85                                                    | .....        | 86-115       | 0-3                                         | 4-14         | 15-76        | .....        | 77-96        | 97-115       |
| 45               | 80-94                                                 | .....        | 55-94                                                    | .....        | 95-115       | 0-3                                         | 4-12         | 13-80        | .....        | 81-99        | 100-115      |
| 46               | .....                                                 | 89-98        | 70-89                                                    | 90-95        | 96-115       | 0-4                                         | .....        | 5-84         | .....        | 85-101       | 102-115      |
| 47               | 70-93                                                 | .....        | 60-90                                                    | .....        | 91-115       | 0-4                                         | .....        | 5-76         | .....        | 77-97        | 98-115       |
| 48               | .....                                                 | 96-105       | 70-92                                                    | 93-99        | 100-115      | 0-4                                         | .....        | 5-82         | .....        | 83-105       | 106-115      |
| 49               | 80-94                                                 | .....        | 60-89                                                    | .....        | 90-115       | 0-3                                         | 4-12         | 13-75        | .....        | 76-99        | 100-115      |
| 50               | .....                                                 | 93-102       | 70-94                                                    | 95-99        | 100-115      | 0-4                                         | .....        | 5-82         | .....        | 84-106       | 108-115      |
| 51               | 80-94                                                 | .....        | 60-89                                                    | .....        | 90-115       | 0-4                                         | .....        | 5-76         | .....        | 77-97        | 98-115       |
| 52               | .....                                                 | 84-93        | 70-90                                                    | 91-93        | 94-115       | 0-4                                         | .....        | 5-80         | .....        | 81-98        | 99-115       |
| 53               | 80-94                                                 | .....        | 60-89                                                    | .....        | 90-115       | 0-4                                         | .....        | 5-77         | .....        | 78-95        | 96-115       |
| 54               | .....                                                 | 84-93        | 70-85                                                    | 86-89        | 90-115       | 0-4                                         | .....        | 5-80         | .....        | 81-94        | 95-115       |
| 55               | 80-94                                                 | .....        | 60-89                                                    | .....        | 90-115       | 0-4                                         | .....        | 5-76         | .....        | 77-99        | 100-115      |
| 56               | .....                                                 | 94-103       | 70-93                                                    | 94-99        | 100-115      | 0-4                                         | .....        | 5-79         | .....        | 80-104       | 103-115      |
| 57               | 80-94                                                 | .....        | 60-92                                                    | .....        | 93-115       | 0-3                                         | 4-12         | 13-74        | .....        | 75-99        | 100-115      |
| 58               | .....                                                 | 90-99        | 70-92                                                    | 93-99        | 100-115      | 0-4                                         | .....        | 5-84         | .....        | 85-104       | 105-115      |
| 59               | 80-94                                                 | .....        | 50-89                                                    | .....        | 90-115       | 0-3                                         | 4-14         | 15-65        | .....        | 66-98        | 99-115       |
| 60               | 80-94                                                 | .....        | 50-92                                                    | .....        | 93-115       | 0-3                                         | 4-8          | 9-70         | .....        | 71-100       | 101-115      |
| 61               | 76-90                                                 | .....        | 60-85                                                    | .....        | 86-115       | 0-3                                         | 4-14         | 15-80        | .....        | 81-98        | 99-115       |
| 62               | 80-94                                                 | .....        | 60-86                                                    | .....        | 87-115       | 0-3                                         | 4-8          | 9-73         | .....        | 74-96        | 97-115       |
| 63               | 78-92                                                 | .....        | 60-90                                                    | .....        | 91-115       | 0-4                                         | .....        | 5-79         | .....        | 80-97        | 98-115       |
| 64               | 80-94                                                 | .....        | 50-94                                                    | .....        | 95-115       | 0-4                                         | .....        | 5-70         | .....        | 71-97        | 98-115       |
| 65               | 80-94                                                 | .....        | 60-93                                                    | .....        | 94-115       | 0-3                                         | 4-14         | 15-75        | .....        | 76-102       | 103-115      |
| 66               | 80-94                                                 | .....        | 60-94                                                    | .....        | 95-115       | 0-4                                         | .....        | 5-90         | .....        | 91-101       | 102-115      |
| 67               | 78-92                                                 | .....        | 50-91                                                    | .....        | 92-115       | 0-4                                         | .....        | 5-65         | .....        | 66-99        | 100-115      |
| 68               | 75-80                                                 | .....        | 85-84                                                    | .....        | 88-115       | 0-4                                         | .....        | 5-70         | .....        | 71-96        | 97-115       |
| 69               | 78-92                                                 | .....        | 60-90                                                    | .....        | 91-115       | 0-3                                         | 4-12         | 13-71        | .....        | 72-97        | 98-115       |
| 70               | 80-94                                                 | .....        | 60-93                                                    | .....        | 94-115       | 0-4                                         | .....        | 5-85         | .....        | 86-96        | 96-115       |
| 71               | 78-92                                                 | .....        | 50-85                                                    | .....        | 86-115       | 0-3                                         | 4-12         | 13-65        | .....        | 66-95        | 96-115       |
| 72               | 79-93                                                 | .....        | 60-80                                                    | .....        | 87-115       | 0-4                                         | .....        | 5-80         | .....        | 81-96        | 97-115       |
| 73               | 79-93                                                 | .....        | 50-90                                                    | .....        | 91-115       | 0-3                                         | 4-12         | 13-74        | .....        | 75-93        | 94-115       |
| 74               | 80-94                                                 | .....        | 60-94                                                    | .....        | 95-115       | 0-3                                         | 4-12         | 13-70        | .....        | 71-100       | 101-115      |





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PART VIII

ORIGINAL STATISTICS

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## PART VIII.—ORIGINAL STATISTICS.

### THE SEVEN TYPES OF ORIGINAL STATISTICS.

275. All the original statistics used in the construction of the life tables are given in this part. The statistics for any given life table are all on one page. At the foot of each page will be found either the mortality statistics used to compute the number of births or else the number of registered births where they were used.

The original statistics of populations and deaths were not uniform, and they have been classified here under seven types, each of which is described below.

TYPE I includes all the statistics for the 1910 tables except those for the four cities. These are:

Populations estimated as of July 1, 1910, and reported deaths for the calendar years 1909-1911 by single years of age from birth to the end of life.

Deaths by months under 1 year of age for the calendar years 1909-1911.

Deaths by single years under age 5 for the calendar years 1912 and 1913, which were used in determining the number of births. For two of these tables the registered births for the period 1909-1911 are shown instead of the deaths used in determining the number of births.

See Tables 137 to 160, pages 428 to 451.

TYPE II includes all the statistics for the 1901 tables for the original registration states and its subdivisions except whites in cities and in the rural part. These are:

Populations estimated as of July 1, 1900, by single years of age from birth through age 99, ending with the group 100 years and over.

Reported deaths for the calendar years 1900-1902 by single years of age from birth to the end of life.

Deaths by months under 1 year of age for the calendar years 1900 and 1901.

Deaths by single years under age 5 for the calendar years 1903-1906, used in determining the number of births.

See Tables 161 to 170, pages 452 to 461.

TYPE III includes all the statistics for the 1901 tables for whites in cities and in the rural part of the original registration states. These are:

Populations estimated as of July 1, 1900, and reported deaths for the calendar years 1900-1902 by single years under age 5, then by quinquennial age groups through age 99, ending with the group 100 years and over.

Deaths by months under 1 year of age for the calendar years 1900 and 1901.

Deaths by single years under age 5 for the calendar years 1903-1906, used in determining the number of births.

See Tables 171 and 172, pages 462 and 463.

TYPE IV includes all the statistics of the four tables for the decennium 1901-1910 for whites and Negroes in the original registration states. These are:

Enumerated population June 1, 1900, by single years of age from birth through age 99, ending with the group 100 years and over.

Enumerated population April 15, 1910, by single years from birth to the end of life.

Mean population for the period 1901-1910 for the age group from birth through age 3, then by quinquennial age groups from age 4 through some old age, such as 78, and then by single years to the end of life. The age through which the quinquennial age groups were carried varied with the table. Reported deaths by single years of age for the period 1901-1910 from birth to the end of life.

Deaths by months under 1 year of age for the calendar years 1901 and 1905-1910.

Deaths by single years under age 5 for the calendar years 1901-1913, used in determining the number of births.

See Tables 173 to 176, pages 464 to 467.

TYPE V includes all the statistics for the two tables for Negroes in the District of Columbia for the decennium 1901-1910. These are:

Enumerated population June 1, 1900, by single years of age from birth through age 99, ending with the group 100 years and over.

Enumerated population April 15, 1910, by single years from birth to the end of life.

Mean population for the period 1901-1910 for the age group from birth through age 3, then by quinquennial age groups through age 63 in one table and through age 78 in the other, and then by single years to the end of life.

Reported deaths for the period 1901-1910 by single years under age 5, then by quinquennial age groups through age 94, ending with the group 95 years and over.

Deaths for the period 1905-1910 by single years from birth to the end of life.

Deaths by months under 1 year of age for the period 1905-1910.

Deaths by single years under age 5 for each of the calendar years 1901-1913, used in determining the number of births.

See Tables 177 and 178, pages 468 and 469.

TYPE VI includes all the statistics for the 1901 tables for the states and the 1890 tables for Massachusetts. For the 1901 tables, these are:

Populations estimated as of July 1, 1900, by single years under age 5, then by quinquennial age groups through age 99, ending with the group 100 years and over.

Reported deaths for each of the calendar years 1900-1902 by single years under age 5, then by quinquennial age groups through age 94, ending with the group 95 years and over.

Deaths by single years under age 5 for each of the calendar years 1903-1906, used in determining the number of births. For two of the tables in this sixth type the number of births registered in the calendar years 1900-1902 are given instead of the deaths used to determine the number of births.

For the two Massachusetts tables for the census year ending May 31, 1890, the following statistics are given:

Enumerated population June 1, 1890, and also for June 1, 1900, by single years under age 5, then by quinquennial age groups through age 99, ending with the group 100 years and over.

Population estimated as of December 1, 1899, for the same ages and age groups as the enumerated populations.

Reported deaths for the census year ending May 31, 1890, by single years under age 5, then by quinquennial age groups through age 94, ending with the age group 95 and over.

See Tables 179 to 181, pages 470 to 472.

TYPE VII includes all the statistics for the four life tables of any one city, and the four cities for which life tables are shown are Boston, Chicago, New York, and Philadelphia.

On the left side of each table are:

Population, estimated as of July 1, 1910, and reported deaths for the calendar years 1909-1911 by single years under age 5, then by quinquennial age groups through age 99, ending with the group 100 years and over.

On the right side of each table are:

Population, estimated as of July 1, 1900, and reported deaths for the calendar years 1900-1902 by single years under age 5, then by quinquennial age groups through age 94, ending with the group 95 years and over.

At the bottom of each table are:

Reported deaths by single years under age 5 for the calendar years 1903-1906 and 1912 and 1913, used in determining the number of births. The number of births registered are given for six of the tables in the calendar years 1909-1911 and for two tables in the calendar years 1900-1902.

See Tables 182 to 185, pages 473 to 476.

**ASSUMPTIONS MADE TO FILL IN STATISTICS WHICH WERE LACKING.**

276. Statistics for the tables of both sexes are simply the sum of those for males and females given in Tables 137, 138, 161, and 162, pages 428, 429, 452, and 453.

Where the populations estimated as of July 1, 1910, were given by single years of age from birth to the end of life, while those estimated as of July 1, 1900, ended with the age group 100 years and over, the latter was distributed into populations by single years of age by assuming that these were proportional to those of July 1, 1910. This distribution into single years of age, 100 years and over, is shown for white females in the original registration states in section 265 and the corresponding tape on pages 413 and 411, respectively.

Where the deaths by months under 1 year of age were shown only for the two calendar years 1900 and 1901, it was assumed that they were proportional to those in the period 1900-1902. In the same way where the deaths by months under 1 year of age were available only for 1901 and for 1905-1910, or where they were available for only the period 1905-1910, it was assumed that these deaths for any month of age were proportional to the deaths for that month of age during the decennium 1901-1910.

Where the reported deaths for the period 1901-1910 were given only by single years under age 5, then by quinquennial age groups through age 94, ending with the group 95 years and over, while the reported deaths for the period 1905-1910 were given by single years from birth to the end of life, it was assumed that the deaths in any year of age during the decennium 1901-1910 were proportional to those during the period 1905-1910.

Only the total number of births, 17,957, was reported in Boston in 1911. It was assumed that the numbers of births by sex in this year were proportional to the sums of those by sex in the calendar years 1909 and 1910, which were 18,088 males and 17,257 females.

To compute the number of births needed for the calculation of the two 1890 Massachusetts life tables by the method used for the other life tables, it was assumed that the population enumerated June 1, 1890, and the reported deaths during the census year ending May 31, 1890, by single years under age 5, remained constant for five years.

**DISTRIBUTION OF POPULATION AND MORTALITY STATISTICS OF UNKNOWN AGES AND UNKNOWN NATIVITY.**

277. The distribution of populations of unknown ages in the census returns of June 1, 1900, and April 15, 1910, were made for all the 1901 and 1910 life tables under the direction of the Geographer. The distribution of populations of unknown ages in the census returns of June 1, 1890, as well as those of the census of June 1, 1900, and April 15, 1910, which were used in the computation of the life tables for the decennium 1901-1910, were made in the Division of Vital Statistics. The distribution of deaths of unknown ages for all tables was made in the Division of Vital Statistics. The general method shown in sections 269 and 270 and the tapes which correspond to them, pages 412 and 413, was followed in distributing populations and deaths of unknown ages.

The distribution of deaths among whites of unknown nativity between native whites and foreign-born whites in the original registration states was made in the Division of Vital Statistics. It was assumed that in any quinquennial age group the number of deaths of native whites and of foreign-born whites, respectively, among whites of unknown nativity were proportional to the number of deaths of known nativity among native whites and among foreign-born whites, respectively.

**ESTIMATES OF POPULATIONS.**

278. All estimates of populations as of July 1, 1900, and July 1, 1910, were made under the direction of the Geographer, while the estimates of populations as of July 1, 1901, and as of December 1, 1899, and the computation of the mean populations for the decennium 1901-1910 were made in the Division of Vital Statistics. With the exception of the mean population for the decennium 1901-1910 the general method used in estimating populations of a given date is that shown in section 256 and the accompanying tape, pages 408 and 409. The method used to obtain the mean population for the decennium 1901-1910 is given in sections 264 to 274 and the accompanying tapes, pages 410 to 414.

## NUMBER OF BIRTHS REGISTERED AND COMPUTED NUMBER OF BIRTHS.

279. The number of births registered is shown by sex in each of the calendar years 1900–1902 and 1909–1911 for Indiana, Massachusetts, Michigan, Boston, and New York City, except that the number of registered births in Boston in 1911 was not separated by sex and in Indiana the number of registered births is from October 1, 1899, to September 30, 1900.

instead of for the calendar year 1900; also the number of registered births is shown by sex for the period 1909–1911 in the state of New York and in Philadelphia, and for the census year ended May 31, 1890, in the state of Massachusetts. Registered births without distribution by sex are shown for the periods 1900–1902 and 1909–1911 in New Jersey; also for the period 1900–1902 in the state of New York and in Philadelphia.

TABLE 136.—COMPUTED NUMBER OF BIRTHS AND NUMBER OF BIRTHS REGISTERED.

| LIFE TABLE.                                           | NUMBER OF BIRTHS. <sup>1</sup> |             |             |           |             |             |
|-------------------------------------------------------|--------------------------------|-------------|-------------|-----------|-------------|-------------|
|                                                       | MALE.                          |             |             | FEMALE.   |             |             |
|                                                       | Computed.                      | Registered. | Difference. | Computed. | Registered. | Difference. |
| <b>ORIGINAL REGISTRATION STATES:</b>                  |                                |             |             |           |             |             |
| Total—                                                |                                |             |             |           |             |             |
| 1901.....                                             | 814,484                        |             |             | 777,099   |             |             |
| 1910.....                                             | 922,172                        |             |             | 877,281   |             |             |
| White—                                                |                                |             |             |           |             |             |
| 1901.....                                             | 798,235                        |             |             | 761,085   |             |             |
| 1901–1910.....                                        | 2,836,683                      |             |             | 2,699,663 |             |             |
| 1910.....                                             | 905,222                        |             |             | 860,378   |             |             |
| Negro—                                                |                                |             |             |           |             |             |
| 1901.....                                             | 15,537                         |             |             | 15,338    |             |             |
| 1901–1910.....                                        | 53,421                         |             |             | 52,861    |             |             |
| 1910.....                                             | 16,154                         |             |             | 16,103    |             |             |
| Native white—                                         |                                |             |             |           |             |             |
| 1901.....                                             | 780,850                        |             |             | 744,085   |             |             |
| 1910.....                                             | 880,614                        |             |             | 836,211   |             |             |
| Whites in cities—                                     |                                |             |             |           |             |             |
| 1901.....                                             | 470,444                        |             |             | 449,606   |             |             |
| 1910.....                                             | 585,325                        |             |             | 559,071   |             |             |
| Whites in rural part—                                 |                                |             |             |           |             |             |
| 1901.....                                             | 326,350                        |             |             | 310,027   |             |             |
| 1910.....                                             | 323,240                        |             |             | 304,657   |             |             |
| District of Columbia, Negro and colored: <sup>2</sup> |                                |             |             |           |             |             |
| 1901–1910.....                                        | * 11,602                       | * 10,918    | 684         | * 11,422  | * 10,317    | 1,105       |
| Indiana:                                              |                                |             |             |           |             |             |
| 1901.....                                             | 98,438                         | 65,361      | 33,077      | 93,238    | 60,215      | 33,023      |
| 1910.....                                             | 99,274                         | 86,115      | 13,159      | 93,352    | 81,609      | 11,743      |
| Massachusetts:                                        |                                |             |             |           |             |             |
| 1890 <sup>3</sup> .....                               | 28,862                         | * 29,434    | —572        | 27,740    | * 28,357    | —617        |
| 1901.....                                             | 113,041                        | * 111,833   | 1,208       | 107,642   | * 105,748   | 1,894       |
| 1910.....                                             | 127,421                        | * 132,964   | —5,543      | 121,320   | * 125,941   | —4,621      |
| Michigan:                                             |                                |             |             |           |             |             |
| 1901.....                                             | 98,129                         | 67,505      | 30,624      | 93,048    | 63,397      | 29,651      |
| 1910.....                                             | 112,319                        | 95,346      | 12,970      | 105,697   | 93,193      | 12,504      |
| New Jersey:                                           |                                |             |             |           |             |             |
| 1901.....                                             | 86,781                         | * 102,198   | * 67,005    | 82,422    | (*)         | (*)         |
| 1910.....                                             | 107,636                        | * 159,583   | * 50,232    | 102,179   | (*)         | (*)         |
| New York:                                             |                                |             |             |           |             |             |
| 1901.....                                             | 301,926                        | * 430,435   | * 160,518   | 289,327   | (*)         | (*)         |
| 1910.....                                             | 346,664                        | 327,315     | 19,349      | 331,706   | 310,254     | 21,542      |
| Boston:                                               |                                |             |             |           |             |             |
| 1901.....                                             | 22,916                         | * 24,256    | —1,340      | 22,067    | * 23,224    | —1,157      |
| 1910.....                                             | 24,708                         | * 27,278    | —2,570      | 23,433    | * 26,024    | —2,591      |
| Chicago:                                              |                                |             |             |           |             |             |
| 1901.....                                             | 73,771                         |             |             | 70,860    |             |             |
| 1910.....                                             | 85,943                         |             |             | 81,016    |             |             |
| New York City:                                        |                                |             |             |           |             |             |
| 1901.....                                             | 169,036                        | 126,727     | 42,309      | 162,022   | 121,373     | 40,649      |
| 1910.....                                             | 200,376                        | * 197,949   | 2,427       | 192,459   | * 188,650   | 3,809       |
| Philadelphia:                                         |                                |             |             |           |             |             |
| 1901.....                                             | 52,744                         | * 87,161    | * 16,262    | 50,679    | (*)         | (*)         |
| 1910.....                                             | 59,104                         | * 59,363    | —259        | 56,784    | * 56,919    | —135        |

<sup>1</sup> In the computation of the 1901 and 1910 life tables the number of births during the periods 1900–1902 and 1909–1911, respectively, was used.

<sup>2</sup> The number of births registered was given only by white and colored, while the number of Negro births was computed.

<sup>3</sup> Census year ended May 31, 1890.

<sup>4</sup> Compiled from number of births registered by calendar months in Registration Reports of Massachusetts, 1889 and 1890.

<sup>5</sup> The number of births registered was used in determining the rates of mortality for the life table.

<sup>6</sup> The number of births registered by sex was not available; the figures given under males include both sexes.

The number of births of colored people registered by sex in the District of Columbia is shown for each of the calendar years 1901-1910.

The number of births was computed for each of the 74 life tables and was used in the computation of the rates of mortality except for the 1901 and the 1910 tables for Massachusetts and Boston and the 1910 tables for the cities of New York and Philadelphia, where the number of registered births was used in the computation of the rates of mortality. Table 136 shows the computed number of births, the number of births registered, and the difference between them where the number of births registered is available.

The theory employed in the computation of births is given in sections 106 to 110 on pages 338 to 342, and the actual computation of the number of male births in the state of New York, 1909 to 1911, is given in sections 140 to 142 and in the diagrams and tape which correspond to them on pages 371 and 373, respectively.

#### MEANING OF URBAN AND RURAL AS USED IN THE LIFE TABLES.

280. On page 18 of the 1909 Mortality Statistics the following definition is given:

By urban population is understood, for the mortality statistics, the population of cities or municipalities (including New England "towns") that had 8,000 or more inhabitants in 1900, while the population of the remainder of a state is considered as rural.

In Volume I of the Report of the Thirteenth Census of the United States, relating to Population, 1910, the following definition appears on page 53:

The Census Bureau classifies as urban population that residing in cities and other incorporated places of 2,500 inhabitants or more, including New England towns of that size.

In order to obtain populations to agree with the deaths for the 1901 life tables for whites in cities, it was necessary to add together the white populations of the original registration states in all cities or municipalities that had 8,000 or more inhabitants in 1900. In this way populations were obtained as of June 1, 1900, and also as of April 15, 1910.

To obtain the populations for the 1901 life tables for whites in rural part of the original registration states, it was necessary to subtract from the total white population of the original registration states the white populations of the cities mentioned above.

A note at the beginning of Table 1 on page 67 in the 1910 Mortality Statistics reads as follows:

The term "cities" as used in this table is restricted to municipalities having 10,000 or more inhabitants in 1910, smaller places being included with the "rural part of the registration states."

This defines "cities in the original registration states" and "rural part of the original registration states" in 1910, as far as deaths are concerned.

By comparing Table 1 in the 1909 Mortality Statistics with Table 1 in the 1910 Mortality Statistics on pages 67 to 80, it will be noted that because of this change in the definition of "cities" 17 municipalities were transferred from urban to rural area and 20 other municipalities were transferred from rural to urban area. The deaths for whites in cities in the original registration states in 1909 included those of the 17 municipalities which were transferred from urban to rural area in 1910, but did not include those of the 20 other municipalities which were transferred from rural to urban area in 1910. This did not affect materially the number of deaths among whites in cities and among whites in rural part of the original registration states for 1910.

In the 1910 Population Report, Volumes II and III, reports by states are given, and at the end of each report are "notes regarding the changes in boundaries, etc., of incorporated places." By looking up these notes for each of the original registration states, it will be seen that during the period 1900-1910 there were a number of annexations from the rural area to the individual cities of the original registration states. Populations for some of the important ones are given in Bulletin 122 on page 4.

On this account the rural and urban tables of 1901 and 1910 do not include exactly the same area. However, the change was so slight that it does not affect materially comparisons of the tables at the two epochs.

In order to obtain populations to agree with the death statistics of whites in cities for the 1910 life table, it was necessary to add together the white populations of those municipalities having 10,000 or more inhabitants in 1910 for the census returns of both June 1, 1900, and April 15, 1910, taking into account the annexations and other changes in the ten-year period. Then, to obtain the rural white populations of the original registration states in 1910, the total white population in the cities mentioned above were subtracted from the white population of the original registration states for the census returns of both June 1, 1900, and April 15, 1910.

TABLES OF ORIGINAL STATISTICS  
UPON WHICH LIFE TABLES IN PART II WERE BASED  
(427)



## UNITED STATES LIFE TABLES.

TABLE 137 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR MALES IN THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

| AGE<br>INTERVAL.                                                          | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |         |         |                | AGE<br>INTERVAL.           | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |       |       |           |
|---------------------------------------------------------------------------|------------------------------------------|------------------|---------|---------|----------------|----------------------------|------------------------------------------|------------------|-------|-------|-----------|
|                                                                           |                                          | 1909             | 1910    | 1911    | 1909-1911      |                            |                                          | 1909             | 1910  | 1911  | 1909-1911 |
| 1                                                                         | 2                                        | 3                | 4       | 5       | 6              | 7                          | 8                                        | 9                | 10    | 11    | 12        |
| All ages.                                                                 | 12 177 315                               | 188 197          | 201 173 | 196 681 | 586 051        | Years.                     |                                          |                  |       |       |           |
| INFANT MORTALITY BY MONTHS.                                               |                                          |                  |         |         |                | 50-51                      | 168 201                                  | 2 394            | 2 667 | 2 635 | 7 696     |
| Months.                                                                   |                                          |                  |         |         |                | 51-52                      | 95 861                                   | 1 595            | 1 739 | 1 871 | 5 205     |
| 0-1                                                                       |                                          | 14 615           | 15 275  | 15 186  | 45 106         | 52-53                      | 123 190                                  | 1 973            | 2 231 | 2 237 | 6 461     |
| 1-2                                                                       |                                          | 3 754            | 4 061   | 3 718   | 11 533         | 53-54                      | 100 352                                  | 1 880            | 1 961 | 2 123 | 5 961     |
| 2-3                                                                       |                                          | 3 010            | 3 351   | 2 900   | 9 261          | 54-55                      | 100 636                                  | 1 951            | 2 100 | 2 105 | 6 156     |
| 3-4                                                                       |                                          | 2 719            | 2 867   | 2 511   | 8 130          | 55-56                      | 101 639                                  | 2 125            | 2 332 | 2 353 | 6 810     |
| 4-5                                                                       |                                          | 2 360            | 2 533   | 2 152   | 7 015          | 56-57                      | 90 320                                   | 1 929            | 2 145 | 2 230 | 6 304     |
| 5-6                                                                       |                                          | 2 070            | 2 223   | 1 887   | 6 180          | 57-58                      | 75 815                                   | 1 791            | 2 092 | 2 171 | 6 060     |
| 6-7                                                                       |                                          | 1 890            | 2 135   | 1 750   | 5 775          | 58-59                      | 80 438                                   | 2 035            | 2 210 | 2 237 | 6 512     |
| 7-8                                                                       |                                          | 1 673            | 1 852   | 1 531   | 5 056          | 59-60                      | 71 452                                   | 2 043            | 2 052 | 2 129 | 6 221     |
| 8-9                                                                       |                                          | 1 672            | 1 698   | 1 419   | 4 789          | 60-61                      | 94 801                                   | 2 717            | 2 852 | 2 935 | 8 501     |
| 9-10                                                                      |                                          | 1 491            | 1 564   | 1 358   | 4 413          | 61-62                      | 51 911                                   | 1 881            | 2 029 | 2 261 | 6 177     |
| 10-11                                                                     |                                          | 1 338            | 1 261   | 1 158   | 3 760          | 62-63                      | 66 576                                   | 2 236            | 2 134 | 2 483 | 7 153     |
| 11-12                                                                     |                                          | 1 274            | 1 351   | 1 086   | 3 711          | 63-64                      | 60 666                                   | 2 296            | 2 505 | 2 483 | 7 281     |
| AGE INTERVALS OF ONE YEAR.                                                |                                          |                  |         |         |                | 64-65                      | 57 508                                   | 2 280            | 2 493 | 2 462 | 7 231     |
| Years.                                                                    |                                          |                  |         |         |                | 65-66                      | 69 453                                   | 2 891            | 3 077 | 3 029 | 9 000     |
| 0-1                                                                       | 258 678                                  | 37 926           | 40 177  | 36 659  | 114 762        | 66-67                      | 48 221                                   | 2 216            | 2 401 | 2 155 | 7 072     |
| 1-2                                                                       | 229 597                                  | 7 795            | 8 033   | 6 958   | 22 786         | 67-68                      | 46 279                                   | 2 355            | 2 486 | 2 663 | 7 504     |
| 2-3                                                                       | 251 361                                  | 3 331            | 3 535   | 2 985   | 9 851          | 68-69                      | 46 517                                   | 2 556            | 2 651 | 2 692 | 7 902     |
| 3-4                                                                       | 245 878                                  | 1 951            | 2 118   | 1 813   | 5 915          | 69-70                      | 42 219                                   | 2 363            | 2 565 | 2 505 | 7 436     |
| 4-5                                                                       | 236 377                                  | 1 397            | 1 442   | 1 315   | 4 154          | 70-71                      | 49 111                                   | 2 695            | 3 117 | 2 955 | 8 767     |
| 5-6                                                                       | 229 210                                  | 1 116            | 1 101   | 1 003   | 3 220          | 71-72                      | 29 268                                   | 2 079            | 2 270 | 2 512 | 6 861     |
| 6-7                                                                       | 227 195                                  | 877              | 952     | 872     | 2 701          | 72-73                      | 31 674                                   | 2 537            | 2 598 | 2 631 | 7 769     |
| 7-8                                                                       | 223 978                                  | 717              | 809     | 741     | 2 270          | 73-74                      | 30 069                                   | 2 109            | 2 627 | 2 623 | 7 359     |
| 8-9                                                                       | 216 177                                  | 635              | 673     | 666     | 1 974          | 74-75                      | 27 180                                   | 2 251            | 2 462 | 2 508 | 7 224     |
| 9-10                                                                      | 211 739                                  | 520              | 599     | 568     | 1 687          | 75-76                      | 27 886                                   | 2 195            | 2 665 | 2 751 | 7 511     |
| 10-11                                                                     | 215 718                                  | 528              | 501     | 532     | 1 561          | 76-77                      | 22 756                                   | 2 260            | 2 470 | 2 271 | 7 001     |
| 11-12                                                                     | 202 613                                  | 520              | 537     | 509     | 1 566          | 77-78                      | 17 968                                   | 1 975            | 2 225 | 2 227 | 6 427     |
| 12-13                                                                     | 220 968                                  | 481              | 478     | 451     | 1 416          | 78-79                      | 16 618                                   | 2 058            | 2 130 | 2 281 | 6 469     |
| 13-14                                                                     | 211 143                                  | 491              | 554     | 505     | 1 550          | 79-80                      | 11 181                                   | 1 967            | 1 912 | 1 935 | 5 811     |
| 14-15                                                                     | 215 796                                  | 518              | 518     | 561     | 1 630          | 80-81                      | 14 481                                   | 1 755            | 2 057 | 1 965 | 5 777     |
| 15-16                                                                     | 201 793                                  | 556              | 578     | 515     | 1 679          | 81-82                      | 9 281                                    | 1 474            | 1 587 | 1 689 | 4 750     |
| 16-17                                                                     | 221 275                                  | 675              | 662     | 658     | 1 995          | 82-83                      | 9 223                                    | 1 495            | 1 616 | 1 556 | 4 667     |
| 17-18                                                                     | 219 195                                  | 807              | 901     | 868     | 2 579          | 83-84                      | 7 510                                    | 1 371            | 1 448 | 1 500 | 4 319     |
| 18-19                                                                     | 232 080                                  | 969              | 1 031   | 990     | 2 990          | 84-85                      | 6 642                                    | 1 221            | 1 289 | 1 401 | 3 911     |
| 19-20                                                                     | 226 413                                  | 1 068            | 1 148   | 1 122   | 3 338          | 85-86                      | 5 351                                    | 1 117            | 1 135 | 1 135 | 3 417     |
| 20-21                                                                     | 229 092                                  | 1 055            | 1 190   | 1 181   | 3 429          | 86-87                      | 4 229                                    | 913              | 1 012 | 1 000 | 2 925     |
| 21-22                                                                     | 233 811                                  | 1 173            | 1 277   | 1 195   | 3 615          | 87-88                      | 3 397                                    | 716              | 806   | 827   | 2 370     |
| 22-23                                                                     | 238 395                                  | 1 255            | 1 381   | 1 327   | 3 963          | 88-89                      | 2 486                                    | 633              | 692   | 617   | 1 972     |
| 23-24                                                                     | 234 398                                  | 1 217            | 1 312   | 1 312   | 3 871          | 89-90                      | 2 019                                    | 533              | 532   | 523   | 1 588     |
| 24-25                                                                     | 238 609                                  | 1 276            | 1 321   | 1 363   | 3 960          | 90-91                      | 1 745                                    | 111              | 478   | 468   | 1 360     |
| 25-26                                                                     | 242 303                                  | 1 321            | 1 415   | 1 431   | 4 170          | 91-92                      | 911                                      | 296              | 320   | 356   | 972       |
| 26-27                                                                     | 230 077                                  | 1 257            | 1 319   | 1 286   | 3 892          | 92-93                      | 690                                      | 235              | 227   | 279   | 711       |
| 27-28                                                                     | 217 382                                  | 1 281            | 1 428   | 1 391   | 4 100          | 93-94                      | 526                                      | 176              | 197   | 176   | 549       |
| 28-29                                                                     | 210 915                                  | 1 491            | 1 512   | 1 530   | 4 566          | 94-95                      | 358                                      | 114              | 125   | 139   | 378       |
| 29-30                                                                     | 198 321                                  | 1 269            | 1 357   | 1 300   | 3 926          | 95-96                      | 313                                      | 81               | 109   | 91    | 281       |
| 30-31                                                                     | 261 115                                  | 1 613            | 1 733   | 1 652   | 4 998          | 96-97                      | 146                                      | 61               | 74    | 53    | 188       |
| 31-32                                                                     | 164 359                                  | 1 210            | 1 210   | 1 322   | 3 772          | 97-98                      | 101                                      | 51               | 58    | 46    | 155       |
| 32-33                                                                     | 206 014                                  | 1 505            | 1 607   | 1 607   | 4 719          | 98-99                      | 76                                       | 33               | 29    | 29    | 91        |
| 33-34                                                                     | 153 101                                  | 1 452            | 1 525   | 1 490   | 4 467          | 99-100                     | 49                                       | 27               | 26    | 28    | 81        |
| 34-35                                                                     | 188 633                                  | 1 191            | 1 616   | 1 593   | 4 700          | 100-101                    | 50                                       | 20               | 20    | 9     | 49        |
| 35-36                                                                     | 221 958                                  | 1 012            | 2 045   | 2 093   | 6 050          | 101-102                    | 12                                       | 6                | 4     | 15    | 25        |
| 36-37                                                                     | 182 187                                  | 1 551            | 1 635   | 1 713   | 4 932          | 102-103                    | 12                                       | 7                | 12    | 3     | 22        |
| 37-38                                                                     | 166 880                                  | 1 535            | 1 662   | 1 638   | 4 835          | 103-104                    | 8                                        | 2                | 9     | 6     | 17        |
| 38-39                                                                     | 202 660                                  | 1 862            | 1 946   | 2 065   | 5 873          | 104-105                    | 3                                        | 5                | 3     | 4     | 12        |
| 39-40                                                                     | 166 106                                  | 1 681            | 1 718   | 1 689   | 5 091          | 105-106                    | 10                                       | 6                | 1     | 3     | 10        |
| 40-41                                                                     | 231 281                                  | 2 198            | 2 429   | 2 302   | 6 929          | 106-107                    | 5                                        | 1                | 3     | 2     | 6         |
| 41-42                                                                     | 127 556                                  | 1 414            | 1 521   | 1 630   | 4 565          | 107-108                    | 0                                        | 1                | 1     | 1     | 3         |
| 42-43                                                                     | 170 576                                  | 1 811            | 2 007   | 2 000   | 5 818          | 108-109                    | 1                                        | 3                | 2     | 0     | 5         |
| 43-44                                                                     | 141 528                                  | 1 678            | 1 699   | 1 805   | 5 182          | 109-110                    | 1                                        |                  | 1     | 2     | 3         |
| 44-45                                                                     | 134 343                                  | 1 511            | 1 648   | 1 710   | 4 869          | 110-111                    | 1                                        |                  | 4     | 1     | 5         |
| 45-46                                                                     | 172 626                                  | 2 190            | 2 231   | 2 380   | 6 801          | 111-112                    | 1                                        |                  |       |       |           |
| 46-47                                                                     | 122 693                                  | 1 587            | 1 751   | 1 599   | 4 937          | 112-113                    | 0                                        |                  |       |       |           |
| 47-48                                                                     | 121 217                                  | 1 623            | 1 829   | 1 880   | 5 332          | 113-114                    | 0                                        |                  |       |       |           |
| 48-49                                                                     | 141 131                                  | 1 969            | 2 037   | 2 080   | 6 077          | 114-115                    | 0                                        |                  |       |       |           |
| 49-50                                                                     | 126 915                                  | 1 814            | 1 934   | 1 952   | 5 700          | 115-116                    | 1                                        |                  |       |       |           |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                          |                  |         |         |                |                            |                                          |                  |       |       |           |
| CALENDAR YEAR.                                                            | AGE INTERVALS OF ONE YEAR.               |                  |         |         | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |                                          |                  |       |       |           |
|                                                                           | 0-1                                      | 1-2              | 2-3     | 3-4     |                | 1-2                        | 2-3                                      | 3-4              | 4-5   |       |           |
| 1912                                                                      | 36 129                                   | 6 861            | 2 868   | 1 697   | 1913           | 7 230                      | 3 181                                    | 1 951            | 1 444 |       |           |

TABLE 138

POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

| AGE INTERVAL.                                                             |            | ESTIMATED POPULATION JULY 1, 1910. | REPORTED DEATHS. |         |         |                | AGE INTERVAL. |                            | ESTIMATED POPULATION JULY 1, 1910. | REPORTED DEATHS. |       |       |           |
|---------------------------------------------------------------------------|------------|------------------------------------|------------------|---------|---------|----------------|---------------|----------------------------|------------------------------------|------------------|-------|-------|-----------|
|                                                                           |            |                                    | 1909             | 1910    | 1911    | 1909-1911      |               |                            |                                    | 1909             | 1910  | 1911  | 1909-1911 |
| 1                                                                         | 2          |                                    | 3                | 4       | 5       | 6              | 7             | 8                          | 9                                  | 10               | 11    | 12    |           |
| All ages.                                                                 | 11 954 444 |                                    | 165 379          | 175 842 | 171 406 | 512 627        | Years.        | 163 588                    | 1 697                              | 2 009            | 1 950 | 5 656 |           |
| INFANT MORTALITY BY MONTHS.                                               |            |                                    |                  |         |         |                |               |                            |                                    |                  |       |       |           |
| Months.                                                                   |            |                                    | 10 847           | 11 409  | 11 354  | 33 610         | 50-51         | 87 587                     | 1 284                              | 1 406            | 1 506 | 4 196 |           |
| 0-1                                                                       |            |                                    | 2 903            | 3 111   | 2 779   | 8 793          | 51-52         | 112 485                    | 1 480                              | 1 733            | 1 729 | 4 942 |           |
| 1-2                                                                       |            |                                    | 2 397            | 2 756   | 2 315   | 7 468          | 52-53         | 92 950                     | 1 407                              | 1 575            | 1 545 | 4 527 |           |
| 2-3                                                                       |            |                                    | 2 154            | 2 377   | 1 993   | 6 521          | 53-54         | 95 956                     | 1 604                              | 1 600            | 1 708 | 4 912 |           |
| 3-4                                                                       |            |                                    | 1 907            | 2 016   | 1 766   | 5 689          | 54-55         | 98 651                     | 1 642                              | 1 778            | 1 880 | 5 300 |           |
| 4-5                                                                       |            |                                    | 1 613            | 1 926   | 1 489   | 5 028          | 55-56         | 85 101                     | 1 528                              | 1 720            | 1 730 | 4 978 |           |
| 5-6                                                                       |            |                                    |                  |         |         |                | 56-57         | 71 666                     | 1 550                              | 1 630            | 1 752 | 4 932 |           |
| 6-7                                                                       |            |                                    | 1 589            | 1 763   | 1 515   | 4 867          | 57-58         | 80 568                     | 1 791                              | 1 828            | 1 917 | 5 536 |           |
| 7-8                                                                       |            |                                    | 1 428            | 1 481   | 1 274   | 4 183          | 58-59         | 69 527                     | 1 724                              | 1 733            | 1 779 | 5 236 |           |
| 8-9                                                                       |            |                                    | 1 399            | 1 416   | 1 222   | 4 037          | 59-60         | 102 851                    | 2 277                              | 2 460            | 2 430 | 7 167 |           |
| 9-10                                                                      |            |                                    | 1 300            | 1 302   | 1 163   | 3 765          | 60-61         | 52 979                     | 1 628                              | 1 694            | 1 966 | 5 288 |           |
| 10-11                                                                     |            |                                    | 1 144            | 1 195   | 1 064   | 3 403          | 61-62         | 65 625                     | 1 959                              | 2 118            | 2 129 | 6 206 |           |
| 11-12                                                                     |            |                                    | 1 132            | 1 227   | 934     | 3 293          | 62-63         | 60 816                     | 2 032                              | 2 075            | 2 146 | 6 253 |           |
| AGE INTERVALS OF ONE YEAR.                                                |            |                                    |                  |         |         |                |               |                            |                                    |                  |       |       |           |
| Years.                                                                    |            |                                    | 29 813           | 31 979  | 28 868  | 90 660         | 63-64         | 58 894                     | 2 154                              | 2 126            | 2 057 | 6 337 |           |
| 0-1                                                                       | 252 054    |                                    | 7 057            | 7 021   | 6 238   | 20 346         | 64-65         | 73 684                     | 2 535                              | 2 812            | 2 739 | 8 086 |           |
| 1-2                                                                       | 224 595    |                                    | 2 882            | 3 113   | 2 609   | 8 604          | 65-66         | 49 071                     | 2 028                              | 2 215            | 2 212 | 6 455 |           |
| 2-3                                                                       | 215 583    |                                    | 1 766            | 1 969   | 1 721   | 5 456          | 66-67         | 47 393                     | 2 179                              | 2 272            | 2 445 | 6 896 |           |
| 3-4                                                                       | 241 612    |                                    | 1 285            | 1 315   | 1 236   | 3 836          | 67-68         | 49 843                     | 2 436                              | 2 467            | 2 454 | 7 357 |           |
| 4-5                                                                       | 231 720    |                                    |                  |         |         |                | 68-69         | 42 562                     | 2 256                              | 2 371            | 2 351 | 6 978 |           |
| 5-6                                                                       | 225 643    |                                    | 1 027            | 1 075   | 947     | 3 049          | 69-70         | 55 623                     | 2 737                              | 3 098            | 3 101 | 8 936 |           |
| 6-7                                                                       | 224 958    |                                    | 850              | 905     | 763     | 2 518          | 70-71         | 29 911                     | 1 974                              | 2 123            | 2 344 | 6 441 |           |
| 7-8                                                                       | 219 484    |                                    | 638              | 749     | 708     | 2 095          | 71-72         | 36 851                     | 2 432                              | 2 545            | 2 546 | 7 523 |           |
| 8-9                                                                       | 214 629    |                                    | 560              | 587     | 573     | 1 720          | 72-73         | 31 857                     | 2 298                              | 2 480            | 2 464 | 7 242 |           |
| 9-10                                                                      | 206 778    |                                    | 479              | 527     | 423     | 1 429          | 73-74         | 29 334                     | 2 178                              | 2 398            | 2 405 | 6 981 |           |
| 10-11                                                                     | 213 474    |                                    | 462              | 465     | 392     | 1 319          | 74-75         | 32 752                     | 2 583                              | 2 709            | 2 755 | 8 047 |           |
| 11-12                                                                     | 201 392    |                                    | 411              | 404     | 408     | 1 223          | 75-76         | 25 612                     | 2 232                              | 2 471            | 2 377 | 7 080 |           |
| 12-13                                                                     | 218 324    |                                    | 419              | 510     | 412     | 1 341          | 76-77         | 19 658                     | 2 034                              | 2 221            | 2 237 | 6 492 |           |
| 13-14                                                                     | 209 821    |                                    | 513              | 497     | 501     | 1 511          | 77-78         | 19 349                     | 2 093                              | 2 125            | 2 235 | 6 513 |           |
| 14-15                                                                     | 212 286    |                                    | 510              | 602     | 521     | 1 633          | 78-79         | 15 758                     | 1 930                              | 2 073            | 1 983 | 5 986 |           |
| 15-16                                                                     | 204 839    |                                    | 528              | 588     | 590     | 1 706          | 79-80         | 18 004                     | 2 064                              | 2 319            | 2 336 | 6 719 |           |
| 16-17                                                                     | 227 328    |                                    | 701              | 680     | 584     | 1 965          | 80-81         | 10 496                     | 1 552                              | 1 629            | 1 787 | 4 968 |           |
| 17-18                                                                     | 220 818    |                                    | 771              | 805     | 742     | 2 318          | 81-82         | 10 895                     | 1 563                              | 1 862            | 1 799 | 5 224 |           |
| 18-19                                                                     | 214 938    |                                    | 915              | 895     | 881     | 2 691          | 82-83         | 9 115                      | 1 434                              | 1 591            | 1 661 | 4 689 |           |
| 19-20                                                                     | 229 567    |                                    | 917              | 940     | 981     | 2 838          | 83-84         | 8 227                      | 1 385                              | 1 521            | 1 500 | 4 406 |           |
| 20-21                                                                     | 250 523    |                                    | 948              | 1 081   | 1 048   | 3 077          | 84-85         | 7 058                      | 1 299                              | 1 427            | 1 361 | 4 087 |           |
| 21-22                                                                     | 223 634    |                                    | 1 005            | 1 097   | 1 101   | 3 203          | 85-86         | 5 308                      | 1 106                              | 1 148            | 1 207 | 3 461 |           |
| 22-23                                                                     | 243 192    |                                    | 1 140            | 1 232   | 1 200   | 3 572          | 86-87         | 4 336                      | 967                                | 1 006            | 1 023 | 2 996 |           |
| 23-24                                                                     | 238 781    |                                    | 1 184            | 1 249   | 1 184   | 3 617          | 87-88         | 3 422                      | 827                                | 804              | 822   | 2 453 |           |
| 24-25                                                                     | 236 719    |                                    | 1 254            | 1 289   | 1 242   | 3 785          | 88-89         | 2 723                      | 682                                | 716              | 765   | 2 163 |           |
| 25-26                                                                     | 241 926    |                                    | 1 179            | 1 216   | 1 274   | 3 669          | 89-90         | 2 440                      | 608                                | 681              | 649   | 1 938 |           |
| 26-27                                                                     | 222 419    |                                    | 1 254            | 1 269   | 1 240   | 3 772          | 90-91         | 1 287                      | 392                                | 415              | 428   | 1 235 |           |
| 27-28                                                                     | 201 425    |                                    | 1 140            | 1 277   | 1 241   | 3 658          | 91-92         | 1 101                      | 316                                | 376              | 352   | 1 044 |           |
| 28-29                                                                     | 230 642    |                                    | 1 312            | 1 372   | 1 271   | 3 955          | 92-93         | 810                        | 258                                | 272              | 302   | 832   |           |
| 29-30                                                                     | 185 945    |                                    | 1 218            | 1 234   | 1 165   | 3 617          | 93-94         | 564                        | 199                                | 201              | 238   | 638   |           |
| 30-31                                                                     | 247 644    |                                    | 1 317            | 1 379   | 1 312   | 4 008          | 94-95         | 519                        | 154                                | 169              | 177   | 509   |           |
| 31-32                                                                     | 154 792    |                                    | 1 040            | 1 090   | 1 112   | 3 242          | 95-96         | 271                        | 132                                | 108              | 118   | 358   |           |
| 32-33                                                                     | 198 236    |                                    | 1 305            | 1 325   | 1 318   | 3 948          | 96-97         | 157                        | 96                                 | 92               | 72    | 260   |           |
| 33-34                                                                     | 173 466    |                                    | 1 230            | 1 267   | 1 210   | 3 707          | 97-98         | 140                        | 59                                 | 73               | 61    | 193   |           |
| 34-35                                                                     | 180 379    |                                    | 1 205            | 1 319   | 1 301   | 3 825          | 98-99         | 94                         | 30                                 | 24               | 30    | 84    |           |
| 35-36                                                                     | 209 797    |                                    | 1 374            | 1 436   | 1 588   | 4 398          | 99-100        | 86                         | 35                                 | 42               | 38    | 115   |           |
| 36-37                                                                     | 175 545    |                                    | 1 292            | 1 324   | 1 361   | 3 977          | 100-101       | 22                         | 14                                 | 20               | 16    | 50    |           |
| 37-38                                                                     | 159 314    |                                    | 1 291            | 1 333   | 1 305   | 3 929          | 101-102       | 19                         | 10                                 | 14               | 8     | 32    |           |
| 38-39                                                                     | 196 149    |                                    | 1 549            | 1 514   | 1 556   | 4 619          | 102-103       | 10                         | 4                                  | 10               | 8     | 22    |           |
| 39-40                                                                     | 157 218    |                                    | 1 371            | 1 322   | 1 325   | 4 018          | 103-104       | 12                         | 6                                  | 3                | 6     | 15    |           |
| 40-41                                                                     | 215 604    |                                    | 1 522            | 1 681   | 1 565   | 4 768          | 104-105       | 10                         | 2                                  | 5                | 1     | 8     |           |
| 41-42                                                                     | 118 184    |                                    | 1 044            | 1 149   | 1 184   | 3 377          | 105-106       | 6                          | 6                                  | 2                | 3     | 11    |           |
| 42-43                                                                     | 164 514    |                                    | 1 405            | 1 458   | 1 408   | 4 331          | 106-107       | 7                          | 3                                  | 1                | 4     | 8     |           |
| 43-44                                                                     | 134 682    |                                    | 1 198            | 1 313   | 1 315   | 3 826          | 107-108       | 1                          | 6                                  | 3                | 2     | 11    |           |
| 44-45                                                                     | 127 497    |                                    | 1 186            | 1 293   | 1 347   | 3 826          | 108-109       | 4                          | 1                                  | 0                | 0     | 1     |           |
| 45-46                                                                     | 157 886    |                                    | 1 453            | 1 496   | 1 636   | 4 585          | 109-110       | 5                          | 2                                  | 3                | 1     | 6     |           |
| 46-47                                                                     | 117 876    |                                    | 1 281            | 1 320   | 1 342   | 3 943          | 110-111       | 1                          | 1                                  | 1                | 1     | 3     |           |
| 47-48                                                                     | 115 354    |                                    | 1 264            | 1 403   | 1 308   | 3 975          | 111-112       | 3                          | 2                                  | 3                | 0     | 5     |           |
| 48-49                                                                     | 137 931    |                                    | 1 510            | 1 590   | 1 591   | 4 691          | 112-113       | 1                          | 0                                  | 1                | 0     | 1     |           |
| 49-50                                                                     | 118 633    |                                    | 1 475            | 1 447   | 1 450   | 4 372          | 113-114       | 1                          | 0                                  | 0                | 0     | 0     |           |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |            |                                    |                  |         |         |                |               |                            |                                    |                  |       |       |           |
| CALENDAR YEAR.                                                            |            | AGE INTERVALS OF ONE YEAR.         |                  |         |         | CALENDAR YEAR. |               | AGE INTERVALS OF ONE YEAR. |                                    |                  |       |       |           |
|                                                                           |            | 0-1                                | 1-2              | 2-3     | 3-4     |                |               | 1-2                        | 2-3                                | 3-4              | 4-5   |       |           |
| 1912                                                                      |            | 28 265                             | 5 938            | 2 587   | 1 520   | 1913           |               | 6 353                      | 2 766                              | 1 805            | 1 292 |       |           |

TABLE 139

POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

| AGE<br>INTERVAL.                                                          | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |         |         |                | AGE<br>INTERVAL.           | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |       |       |           |
|---------------------------------------------------------------------------|------------------------------------------|------------------|---------|---------|----------------|----------------------------|------------------------------------------|------------------|-------|-------|-----------|
|                                                                           |                                          | 1909             | 1910    | 1911    | 1909-1911      |                            |                                          | 1909             | 1910  | 1911  | 1909-1911 |
| 1                                                                         | 2                                        | 3                | 4       | 5       | 6              | 7                          | 8                                        | 9                | 10    | 11    | 12        |
| All ages.                                                                 | 11 932 963                               | 182 373          | 194 791 | 190 497 | 567 661        | Years.                     |                                          |                  |       |       |           |
| INFANT MORTALITY BY MONTHS.                                               |                                          |                  |         |         |                | 50-51                      | 164 252                                  | 2 287            | 2 536 | 2 521 | 7 344     |
| Months.                                                                   |                                          |                  |         |         |                | 51-52                      | 94 299                                   | 1 518            | 1 697 | 1 802 | 5 017     |
| 0-1                                                                       |                                          | 14 213           | 14 819  | 14 795  | 43 827         | 52-53                      | 120 977                                  | 1 913            | 2 161 | 2 173 | 6 247     |
| 1-2                                                                       |                                          | 3 650            | 3 945   | 3 629   | 11 224         | 53-54                      | 98 811                                   | 1 820            | 1 890 | 2 039 | 5 769     |
| 2-3                                                                       |                                          | 2 895            | 3 237   | 2 796   | 8 928          | 54-55                      | 98 962                                   | 1 895            | 2 044 | 2 030 | 5 969     |
| 3-4                                                                       |                                          | 2 662            | 2 777   | 2 421   | 7 860          | 55-56                      | 99 656                                   | 2 044            | 2 252 | 2 273 | 6 569     |
| 4-5                                                                       |                                          | 2 273            | 2 460   | 2 073   | 6 806          | 56-57                      | 88 819                                   | 1 871            | 2 089 | 2 180 | 6 140     |
| 5-6                                                                       |                                          | 2 004            | 2 160   | 1 821   | 5 985          | 57-58                      | 74 699                                   | 1 750            | 2 078 | 2 114 | 5 942     |
| 6-7                                                                       |                                          | 1 804            | 2 054   | 1 699   | 5 557          | 58-59                      | 79 196                                   | 1 989            | 2 179 | 2 181 | 6 349     |
| 7-8                                                                       |                                          | 1 609            | 1 791   | 1 476   | 4 876          | 59-60                      | 70 413                                   | 1 989            | 2 005 | 2 073 | 6 067     |
| 8-9                                                                       |                                          | 1 616            | 1 612   | 1 363   | 4 621          | 60-61                      | 92 762                                   | 2 640            | 2 766 | 2 822 | 8 228     |
| 9-10                                                                      |                                          | 1 446            | 1 505   | 1 306   | 4 257          | 61-62                      | 51 277                                   | 1 847            | 1 996 | 2 222 | 6 065     |
| 10-11                                                                     |                                          | 1 293            | 1 217   | 1 120   | 3 630          | 62-63                      | 65 706                                   | 2 195            | 2 368 | 2 427 | 6 990     |
| 11-12                                                                     |                                          | 1 225            | 1 291   | 1 044   | 3 560          | 63-64                      | 59 842                                   | 2 251            | 2 452 | 2 430 | 7 136     |
| AGE INTERVALS OF ONE YEAR.                                                |                                          |                  |         |         |                | 64-65                      | 56 750                                   | 2 252            | 2 449 | 2 423 | 7 124     |
| Years.                                                                    |                                          |                  |         |         |                | 65-66                      | 68 094                                   | 2 817            | 2 973 | 2 917 | 8 767     |
| 0-1                                                                       | 254 307                                  | 36 690           | 38 898  | 35 543  | 111 131        | 66-67                      | 47 615                                   | 2 177            | 2 350 | 2 411 | 6 941     |
| 1-2                                                                       | 226 129                                  | 7 530            | 7 727   | 6 679   | 21 930         | 67-68                      | 45 718                                   | 2 317            | 2 445 | 2 611 | 7 373     |
| 2-3                                                                       | 247 391                                  | 3 206            | 3 404   | 2 860   | 9 470          | 68-69                      | 45 931                                   | 2 504            | 2 607 | 2 649 | 7 760     |
| 3-4                                                                       | 241 985                                  | 1 885            | 2 055   | 1 786   | 5 726          | 69-70                      | 41 692                                   | 2 322            | 2 533 | 2 461 | 7 316     |
| 4-5                                                                       | 232 612                                  | 1 359            | 1 398   | 1 280   | 4 037          | 70-71                      | 48 201                                   | 2 628            | 3 038 | 2 873 | 8 539     |
| 5-6                                                                       | 225 604                                  | 1 093            | 1 073   | 967     | 3 133          | 71-72                      | 29 028                                   | 2 052            | 2 248 | 2 472 | 6 772     |
| 6-7                                                                       | 223 518                                  | 849              | 922     | 844     | 2 615          | 72-73                      | 34 273                                   | 2 502            | 2 564 | 2 596 | 7 662     |
| 7-8                                                                       | 220 389                                  | 694              | 790     | 724     | 2 208          | 73-74                      | 29 722                                   | 2 380            | 2 593 | 2 583 | 7 556     |
| 8-9                                                                       | 212 845                                  | 614              | 652     | 648     | 1 914          | 74-75                      | 26 911                                   | 2 226            | 2 430 | 2 463 | 7 119     |
| 9-10                                                                      | 208 316                                  | 500              | 573     | 549     | 1 622          | 75-76                      | 27 463                                   | 2 441            | 2 617 | 2 703 | 7 761     |
| 10-11                                                                     | 212 295                                  | 519              | 486     | 506     | 1 511          | 76-77                      | 22 513                                   | 2 230            | 2 446 | 2 413 | 6 919     |
| 11-12                                                                     | 199 483                                  | 500              | 517     | 488     | 1 505          | 77-78                      | 17 795                                   | 1 955            | 2 202 | 2 208 | 6 365     |
| 12-13                                                                     | 217 465                                  | 465              | 461     | 443     | 1 372          | 78-79                      | 16 446                                   | 2 045            | 2 107 | 2 261 | 6 416     |
| 13-14                                                                     | 207 788                                  | 475              | 533     | 486     | 1 491          | 79-80                      | 14 040                                   | 1 916            | 1 894 | 1 926 | 5 766     |
| 14-15                                                                     | 212 205                                  | 498              | 524     | 543     | 1 565          | 80-81                      | 14 234                                   | 1 728            | 2 011 | 1 930 | 5 669     |
| 15-16                                                                     | 198 625                                  | 531              | 550     | 527     | 1 608          | 81-82                      | 9 196                                    | 1 462            | 1 573 | 1 671 | 4 709     |
| 16-17                                                                     | 217 739                                  | 649              | 630     | 627     | 1 906          | 82-83                      | 9 139                                    | 1 485            | 1 603 | 1 512 | 4 630     |
| 17-18                                                                     | 215 660                                  | 771              | 866     | 826     | 2 463          | 83-84                      | 7 142                                    | 1 362            | 1 434 | 1 490 | 4 286     |
| 18-19                                                                     | 228 053                                  | 921              | 997     | 940     | 2 858          | 84-85                      | 0 584                                    | 1 215            | 1 272 | 1 390 | 3 877     |
| 19-20                                                                     | 222 231                                  | 1 020            | 1 092   | 1 078   | 3 190          | 85-86                      | 5 280                                    | 1 127            | 1 124 | 1 119 | 3 370     |
| 20-21                                                                     | 224 728                                  | 994              | 1 144   | 1 127   | 3 265          | 86-87                      | 4 182                                    | 906              | 1 006 | 989   | 2 901     |
| 21-22                                                                     | 228 799                                  | 1 128            | 1 208   | 1 139   | 3 475          | 87-88                      | 3 351                                    | 737              | 800   | 821   | 2 358     |
| 22-23                                                                     | 232 958                                  | 1 198            | 1 322   | 1 257   | 3 777          | 88-89                      | 2 456                                    | 621              | 685   | 639   | 1 945     |
| 23-24                                                                     | 228 833                                  | 1 151            | 1 241   | 1 274   | 3 666          | 89-90                      | 1 992                                    | 528              | 524   | 518   | 1 570     |
| 24-25                                                                     | 232 645                                  | 1 215            | 1 244   | 1 293   | 3 752          | 90-91                      | 1 705                                    | 409              | 474   | 454   | 1 337     |
| 25-26                                                                     | 235 663                                  | 1 248            | 1 345   | 1 343   | 3 936          | 91-92                      | 928                                      | 294              | 318   | 353   | 965       |
| 26-27                                                                     | 224 240                                  | 1 188            | 1 246   | 1 211   | 3 685          | 92-93                      | 683                                      | 232              | 225   | 274   | 731       |
| 27-28                                                                     | 211 766                                  | 1 201            | 1 341   | 1 316   | 3 858          | 93-94                      | 519                                      | 175              | 195   | 176   | 546       |
| 28-29                                                                     | 234 154                                  | 1 400            | 1 449   | 1 448   | 4 297          | 94-95                      | 349                                      | 113              | 123   | 137   | 373       |
| 29-30                                                                     | 192 832                                  | 1 196            | 1 282   | 1 213   | 3 691          | 95-96                      | 290                                      | 77               | 103   | 92    | 272       |
| 30-31                                                                     | 253 445                                  | 1 510            | 1 609   | 1 538   | 4 657          | 96-97                      | 142                                      | 61               | 72    | 51    | 181       |
| 31-32                                                                     | 160 326                                  | 1 156            | 1 180   | 1 262   | 3 598          | 97-98                      | 103                                      | 47               | 57    | 45    | 149       |
| 32-33                                                                     | 200 661                                  | 1 434            | 1 530   | 1 525   | 4 489          | 98-99                      | 70                                       | 31               | 29    | 28    | 88        |
| 33-34                                                                     | 179 099                                  | 1 376            | 1 442   | 1 417   | 4 235          | 99-100                     | 46                                       | 26               | 24    | 28    | 78        |
| 34-35                                                                     | 183 830                                  | 1 415            | 1 511   | 1 519   | 4 445          | 100-101                    | 43                                       | 15               | 18    | 8     | 41        |
| 35-36                                                                     | 218 208                                  | 1 801            | 1 927   | 1 980   | 5 708          | 101-102                    | 8                                        | 5                | 4     | 12    | 21        |
| 36-37                                                                     | 177 669                                  | 1 485            | 1 571   | 1 662   | 4 718          | 102-103                    | 9                                        | 5                | 10    | 2     | 17        |
| 37-38                                                                     | 162 818                                  | 1 471            | 1 573   | 1 559   | 4 603          | 103-104                    | 6                                        | 1                | 9     | 5     | 15        |
| 38-39                                                                     | 107 145                                  | 1 778            | 1 841   | 1 954   | 5 573          | 104-105                    | 2                                        | 5                | 3     | 2     | 10        |
| 39-40                                                                     | 161 773                                  | 1 622            | 1 636   | 1 602   | 4 860          | 105-106                    | 7                                        | 4                | 0     | 2     | 6         |
| 40-41                                                                     | 224 637                                  | 2 090            | 2 295   | 2 177   | 6 562          | 106-107                    | 3                                        | 0                | 2     | 1     | 3         |
| 41-42                                                                     | 124 933                                  | 1 350            | 1 463   | 1 577   | 4 390          | 107-108                    | 0                                        | 1                | 0     | 1     | 2         |
| 42-43                                                                     | 172 514                                  | 1 769            | 1 915   | 1 899   | 5 583          | 108-109                    | 1                                        | 1                | 2     | 0     | 3         |
| 43-44                                                                     | 138 706                                  | 1 605            | 1 627   | 1 724   | 4 956          | 109-110                    | 1                                        | 1                | 1     | 1     | 2         |
| 44-45                                                                     | 131 768                                  | 1 466            | 1 579   | 1 653   | 4 698          | 110-111                    | 1                                        |                  | 2     | 1     | 3         |
| 45-46                                                                     | 168 320                                  | 2 100            | 2 121   | 2 283   | 6 504          | 111-112                    | 1                                        |                  |       |       |           |
| 46-47                                                                     | 120 510                                  | 1 513            | 1 694   | 1 551   | 4 788          |                            |                                          |                  |       |       |           |
| 47-48                                                                     | 119 102                                  | 1 569            | 1 772   | 1 820   | 5 161          |                            |                                          |                  |       |       |           |
| 48-49                                                                     | 138 216                                  | 1 890            | 1 961   | 2 010   | 5 861          |                            |                                          |                  |       |       |           |
| 49-50                                                                     | 124 277                                  | 1 746            | 1 859   | 1 892   | 5 497          |                            |                                          |                  |       |       |           |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                          |                  |         |         |                |                            |                                          |                  |       |       |           |
| CALENDAR YEAR.                                                            | AGE INTERVALS OF ONE YEAR.               |                  |         |         | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |                                          |                  |       |       |           |
|                                                                           | 0-1                                      | 1-2              | 2-3     | 3-4     |                | 1-2                        | 2-3                                      | 3-4              | 4-5   |       |           |
| 1912                                                                      | 35 037                                   | 6 608            | 2 767   | 1 645   | 1913           | 6 973                      | 3 067                                    | 1 882            | 1 404 |       |           |

TABLE 140 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

| AGE INTERVAL.                                                             |            | ESTIMATED POPULATION JULY 1, 1910. | REPORTED DEATHS. |         |         |                | AGE INTERVAL. |                            | ESTIMATED POPULATION JULY 1, 1910. | REPORTED DEATHS. |       |       |           |
|---------------------------------------------------------------------------|------------|------------------------------------|------------------|---------|---------|----------------|---------------|----------------------------|------------------------------------|------------------|-------|-------|-----------|
|                                                                           |            |                                    | 1909             | 1910    | 1911    | 1909-1911      |               |                            |                                    | 1909             | 1910  | 1911  | 1909-1911 |
| 1                                                                         | 2          |                                    | 3                | 4       | 5       | 6              | 7             | 8                          | 9                                  | 10               | 11    | 12    |           |
| All ages.                                                                 | 11 706 221 |                                    | 160 227          | 170 233 | 165 918 | 496 378        | Years.        | 159 514                    | 1 621                              | 1 903            | 1 861 | 5 385 |           |
| INFANT MORTALITY BY MONTHS.                                               |            |                                    |                  |         |         |                |               |                            |                                    |                  |       |       |           |
| Months.                                                                   |            |                                    | 10 512           | 11 050  | 11 006  | 32 568         | 50-51         | 86 318                     | 1 254                              | 1 359            | 1 443 | 4 056 |           |
| 0-1                                                                       |            |                                    | 2 825            | 3 008   | 2 674   | 8 507          | 51-52         | 110 561                    | 1 421                              | 1 667            | 1 666 | 4 754 |           |
| 1-2                                                                       |            |                                    | 2 323            | 2 665   | 2 244   | 7 232          | 52-53         | 91 616                     | 1 359                              | 1 542            | 1 502 | 4 403 |           |
| 2-3                                                                       |            |                                    | 2 066            | 2 285   | 1 932   | 6 283          | 53-54         | 91 393                     | 1 566                              | 1 551            | 1 653 | 4 770 |           |
| 3-4                                                                       |            |                                    | 1 844            | 1 914   | 1 705   | 5 463          | 54-55         |                            |                                    |                  |       |       |           |
| 4-5                                                                       |            |                                    | 1 566            | 1 862   | 1 437   | 4 865          | 55-56         | 96 740                     | 1 578                              | 1 712            | 1 815 | 5 105 |           |
| 5-6                                                                       |            |                                    |                  |         |         |                | 56-57         | 83 765                     | 1 478                              | 1 677            | 1 660 | 4 815 |           |
| 6-7                                                                       |            |                                    | 1 524            | 1 704   | 1 459   | 4 687          | 57-58         | 70 641                     | 1 510                              | 1 591            | 1 699 | 4 803 |           |
| 7-8                                                                       |            |                                    | 1 376            | 1 408   | 1 231   | 4 015          | 58-59         | 79 371                     | 1 751                              | 1 773            | 1 860 | 5 384 |           |
| 8-9                                                                       |            |                                    | 1 352            | 1 364   | 1 167   | 3 883          | 59-60         | 68 462                     | 1 683                              | 1 681            | 1 726 | 5 090 |           |
| 9-10                                                                      |            |                                    | 1 259            | 1 256   | 1 123   | 3 638          | 60-61         | 100 556                    | 2 159                              | 2 370            | 2 331 | 6 860 |           |
| 10-11                                                                     |            |                                    | 1 099            | 1 138   | 1 025   | 3 262          | 61-62         | 52 135                     | 1 597                              | 1 656            | 1 927 | 5 180 |           |
| 11-12                                                                     |            |                                    | 1 086            | 1 185   | 909     | 3 180          | 62-63         | 64 818                     | 1 918                              | 2 079            | 2 082 | 6 079 |           |
| AGE INTERVALS OF ONE YEAR.                                                |            |                                    |                  |         |         |                |               |                            |                                    |                  |       |       |           |
| Years.                                                                    |            |                                    | 28 832           | 30 869  | 27 912  | 87 613         | 63-64         | 60 056                     | 1 993                              | 2 034            | 2 106 | 6 133 |           |
| 0-1                                                                       | 247 517    |                                    | 6 829            | 6 733   | 5 997   | 19 559         | 64-65         | 58 230                     | 2 124                              | 2 090            | 2 011 | 6 225 |           |
| 1-2                                                                       | 229 930    |                                    | 2 765            | 3 011   | 2 527   | 8 303          | 65-66         | 72 350                     | 2 474                              | 2 738            | 2 659 | 7 871 |           |
| 2-3                                                                       | 211 481    |                                    | 1 701            | 1 902   | 1 658   | 5 261          | 66-67         | 48 544                     | 1 988                              | 2 178            | 2 178 | 6 344 |           |
| 3-4                                                                       | 237 435    |                                    | 1 242            | 1 285   | 1 190   | 3 727          | 67-68         | 46 881                     | 2 140                              | 2 222            | 2 467 | 6 769 |           |
| 4-5                                                                       | 227 810    |                                    |                  |         |         |                | 68-69         | 49 298                     | 2 389                              | 2 428            | 2 417 | 7 231 |           |
| 5-6                                                                       | 221 785    | 992                                | 1 047            | 918     | 2 957   |                | 69-70         | 42 082                     | 2 217                              | 2 335            | 2 316 | 6 868 |           |
| 6-7                                                                       | 221 201    | 822                                | 891              | 738     | 2 452   |                | 70-71         | 54 633                     | 2 672                              | 3 022            | 3 044 | 8 738 |           |
| 7-8                                                                       | 215 737    | 624                                | 724              | 683     | 2 031   |                | 71-72         | 29 640                     | 1 955                              | 2 106            | 2 312 | 6 373 |           |
| 8-9                                                                       | 210 867    | 541                                | 564              | 551     | 1 659   |                | 72-73         | 36 422                     | 2 469                              | 2 516            | 2 507 | 7 492 |           |
| 9-10                                                                      | 203 267    | 461                                | 500              | 409     | 1 370   |                | 73-74         | 31 588                     | 2 264                              | 2 460            | 2 431 | 7 161 |           |
| 10-11                                                                     | 209 744    | 440                                | 450              | 379     | 1 269   |                | 74-75         | 29 043                     | 2 156                              | 2 370            | 2 373 | 6 899 |           |
| 11-12                                                                     | 198 105    | 385                                | 382              | 388     | 1 155   |                | 75-76         | 32 249                     | 2 511                              | 2 662            | 2 706 | 7 900 |           |
| 12-13                                                                     | 214 437    | 398                                | 484              | 398     | 1 280   |                | 76-77         | 25 313                     | 2 215                              | 2 417            | 2 348 | 7 010 |           |
| 13-14                                                                     | 206 159    | 484                                | 469              | 472     | 1 425   |                | 77-78         | 19 486                     | 2 012                              | 2 207            | 2 224 | 6 443 |           |
| 14-15                                                                     | 208 426    | 473                                | 568              | 490     | 1 531   |                | 78-79         | 19 138                     | 2 078                              | 2 098            | 2 275 | 6 451 |           |
| 15-16                                                                     | 201 287    | 497                                | 554              | 519     | 1 570   |                | 79-80         | 15 597                     | 1 911                              | 2 056            | 1 964 | 5 931 |           |
| 16-17                                                                     | 223 278    | 603                                | 639              | 555     | 1 897   |                | 80-81         | 17 654                     | 2 023                              | 2 274            | 2 290 | 6 587 |           |
| 17-18                                                                     | 216 787    | 721                                | 759              | 696     | 2 176   |                | 81-82         | 10 403                     | 1 542                              | 1 619            | 1 773 | 4 934 |           |
| 18-19                                                                     | 240 016    | 863                                | 840              | 833     | 2 536   |                | 82-83         | 10 774                     | 1 555                              | 1 817            | 1 773 | 5 175 |           |
| 19-20                                                                     | 224 373    | 867                                | 881              | 928     | 2 676   |                | 83-84         | 9 025                      | 1 418                              | 1 579            | 1 648 | 4 645 |           |
| 20-21                                                                     | 244 906    | 905                                | 1 018            | 976     | 2 899   |                | 84-85         | 8 148                      | 1 375                              | 1 506            | 1 490 | 4 371 |           |
| 21-22                                                                     | 218 465    | 953                                | 1 039            | 1 032   | 3 024   |                | 85-86         | 6 943                      | 1 283                              | 1 410            | 1 331 | 4 024 |           |
| 22-23                                                                     | 237 047    | 1 072                              | 1 172            | 1 143   | 3 387   |                | 86-87         | 5 238                      | 1 096                              | 1 137            | 1 198 | 3 431 |           |
| 23-24                                                                     | 232 316    | 1 126                              | 1 176            | 1 106   | 3 408   |                | 87-88         | 4 283                      | 955                                | 995              | 1 010 | 2 960 |           |
| 24-25                                                                     | 229 914    | 1 178                              | 1 211            | 1 180   | 3 569   |                | 88-89         | 3 379                      | 816                                | 796              | 815   | 2 427 |           |
| 25-26                                                                     | 234 646    | 1 108                              | 1 149            | 1 206   | 3 463   |                | 89-90         | 2 656                      | 669                                | 707              | 754   | 2 130 |           |
| 26-27                                                                     | 216 053    | 1 187                              | 1 195            | 1 180   | 3 562   |                | 90-91         | 2 353                      | 600                                | 665              | 628   | 1 893 |           |
| 27-28                                                                     | 198 699    | 1 088                              | 1 214            | 1 192   | 3 494   |                | 91-92         | 1 262                      | 388                                | 412              | 423   | 1 223 |           |
| 28-29                                                                     | 223 621    | 1 243                              | 1 291            | 1 191   | 3 725   |                | 92-93         | 1 076                      | 312                                | 372              | 319   | 1 033 |           |
| 29-30                                                                     | 180 288    | 1 143                              | 1 174            | 1 098   | 3 415   |                | 93-94         | 733                        | 256                                | 270              | 295   | 821   |           |
| 30-31                                                                     | 239 912    | 1 241                              | 1 302            | 1 214   | 3 757   |                | 94-95         | 551                        | 192                                | 200              | 237   | 629   |           |
| 31-32                                                                     | 151 153    | 985                                | 1 033            | 1 064   | 3 082   |                | 95-96         | 486                        | 150                                | 164              | 170   | 484   |           |
| 32-33                                                                     | 193 163    | 1 248                              | 1 255            | 1 255   | 3 758   |                | 96-97         | 255                        | 130                                | 105              | 111   | 346   |           |
| 33-34                                                                     | 169 246    | 1 171                              | 1 205            | 1 147   | 3 523   |                | 97-98         | 144                        | 93                                 | 91               | 70    | 254   |           |
| 34-35                                                                     | 175 912    | 1 152                              | 1 252            | 1 243   | 3 647   |                | 98-99         | 129                        | 51                                 | 69               | 55    | 175   |           |
| 35-36                                                                     | 203 838    | 1 308                              | 1 358            | 1 491   | 4 157   |                | 99-100        | 85                         | 29                                 | 20               | 27    | 76    |           |
| 36-37                                                                     | 171 459    | 1 243                              | 1 265            | 1 291   | 3 799   |                | 100-101       | 67                         | 29                                 | 32               | 35    | 96    |           |
| 37-38                                                                     | 155 707    | 1 236                              | 1 280            | 1 233   | 3 749   |                | 101-102       | 18                         | 13                                 | 19               | 13    | 45    |           |
| 38-39                                                                     | 190 923    | 1 470                              | 1 435            | 1 475   | 4 380   |                | 102-103       | 13                         | 7                                  | 13               | 6     | 26    |           |
| 39-40                                                                     | 153 045    | 1 305                              | 1 256            | 1 252   | 3 813   |                | 103-104       | 9                          | 2                                  | 9                | 7     | 18    |           |
| 40-41                                                                     | 209 521    | 1 438                              | 1 569            | 1 472   | 4 479   |                | 104-105       | 9                          | 4                                  | 3                | 6     | 13    |           |
| 41-42                                                                     | 116 077    | 1 005                              | 1 111            | 1 130   | 3 246   |                | 105-106       | 6                          | 2                                  | 5                | 1     | 8     |           |
| 42-43                                                                     | 161 281    | 1 314                              | 1 398            | 1 391   | 4 133   |                | 106-107       | 5                          | 4                                  | 2                | 2     | 8     |           |
| 43-44                                                                     | 132 219    | 1 152                              | 1 253            | 1 295   | 3 700   |                | 107-108       | 5                          | 2                                  | 1                | 4     | 7     |           |
| 44-45                                                                     | 125 295    | 1 140                              | 1 226            | 1 301   | 3 667   |                | 108-109       | 1                          | 5                                  | 2                | 1     | 8     |           |
| 45-46                                                                     | 154 013    | 1 385                              | 1 424            | 1 500   | 4 309   |                | 109-110       | 0                          | 1                                  | 0                | 0     | 1     |           |
| 46-47                                                                     | 115 944    | 1 218                              | 1 269            | 1 291   | 3 778   |                | 110-111       | 1                          | 1                                  | 0                | 0     | 2     |           |
| 47-48                                                                     | 113 423    | 1 231                              | 1 350            | 1 276   | 3 857   |                | 111-112       | 1                          | 1                                  | 1                | 0     | 3     |           |
| 48-49                                                                     | 135 189    | 1 459                              | 1 533            | 1 526   | 4 518   |                | 112-113       | 0                          | 2                                  | 1                | 0     | 0     |           |
| 49-50                                                                     | 116 210    | 1 423                              | 1 390            | 1 404   | 4 217   |                | 113-114       | 0                          |                                    |                  | 0     | 0     |           |
|                                                                           |            |                                    |                  |         |         |                | 114-115       | 1                          |                                    |                  | 0     | 0     |           |
|                                                                           |            |                                    |                  |         |         |                | 115-116       | 1                          |                                    |                  | 0     | 0     |           |
|                                                                           |            |                                    |                  |         |         |                | 116-117       |                            |                                    |                  | 0     | 0     |           |
|                                                                           |            |                                    |                  |         |         |                | 117-118       |                            |                                    |                  | 1     | 1     |           |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |            |                                    |                  |         |         |                |               |                            |                                    |                  |       |       |           |
| CALENDAR YEAR.                                                            |            | AGE INTERVALS OF ONE YEAR.         |                  |         |         | CALENDAR YEAR. |               | AGE INTERVALS OF ONE YEAR. |                                    |                  |       |       |           |
|                                                                           |            | 0-1                                | 1-2              | 2-3     | 3-4     |                |               | 1-2                        | 2-3                                | 3-4              | 4-5   |       |           |
| 1912                                                                      |            | 27 309                             | 5 691            | 2 482   | 1 459   | 1913           |               | 6 136                      | 2 667                              | 1 741            | 1 258 |       |           |

TABLE 141 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR NEGRO MALES IN THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

| AGE<br>INTERVAL.                                                          | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |       |       |                | AGE<br>INTERVAL.           | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |      |      |           |
|---------------------------------------------------------------------------|------------------------------------------|------------------|-------|-------|----------------|----------------------------|------------------------------------------|------------------|------|------|-----------|
|                                                                           |                                          | 1909             | 1910  | 1911  | 1909-1911      |                            |                                          | 1909             | 1910 | 1911 | 1909-1911 |
| 1                                                                         | 2                                        | 3                | 4     | 5     | 6              | 7                          | 8                                        | 9                | 10   | 11   | 12        |
| All ages.                                                                 | 223 881                                  | 5 531            | 6 052 | 5 888 | 17 471         | Years.                     | 3 517                                    | 99               | 122  | 108  | 329       |
| INFANT MORTALITY BY MONTHS.                                               |                                          |                  |       |       |                |                            |                                          |                  |      |      |           |
| Months.                                                                   |                                          |                  |       |       |                | 50-51                      | 1 333                                    | 45               | 38   | 63   | 146       |
| 0-1                                                                       |                                          | 419              | 445   | 380   | 1 244          | 51-52                      | 1 917                                    | 53               | 67   | 79   | 199       |
| 1-2                                                                       |                                          | 97               | 115   | 89    | 301            | 52-53                      | 1 380                                    | 51               | 65   | 61   | 180       |
| 2-3                                                                       |                                          | 111              | 109   | 102   | 325            | 53-54                      | 1 513                                    | 52               | 55   | 71   | 178       |
| 3-4                                                                       |                                          | 84               | 79    | 92    | 255            | 54-55                      |                                          |                  |      |      |           |
| 4-5                                                                       |                                          | 81               | 74    | 76    | 231            | 55-56                      | 1 756                                    | 74               | 71   | 76   | 221       |
| 5-6                                                                       |                                          | 61               | 66    | 61    | 191            | 56-57                      | 1 315                                    | 51               | 55   | 48   | 157       |
| 6-7                                                                       |                                          | 85               | 79    | 50    | 211            | 57-58                      | 1 013                                    | 42               | 51   | 57   | 150       |
| 7-8                                                                       |                                          | 64               | 59    | 52    | 175            | 58-59                      | 1 098                                    | 41               | 55   | 52   | 148       |
| 8-9                                                                       |                                          | 56               | 56    | 53    | 165            | 59-60                      | 943                                      | 51               | 44   | 56   | 151       |
| 9-10                                                                      |                                          | 44               | 60    | 40    | 153            | 60-61                      | 1 856                                    | 71               | 81   | 107  | 259       |
| 10-11                                                                     |                                          | 44               | 41    | 36    | 121            | 61-62                      | 576                                      | 35               | 32   | 39   | 106       |
| 11-12                                                                     |                                          | 49               | 57    | 40    | 146            | 62-63                      | 800                                      | 39               | 61   | 53   | 153       |
| AGE INTERVALS OF ONE YEAR.                                                |                                          |                  |       |       |                |                            |                                          |                  |      |      |           |
| Years.                                                                    |                                          |                  |       |       |                | 63-64                      | 769                                      | 40               | 50   | 50   | 110       |
| 0-1                                                                       | 4 102                                    | 1 201            | 1 213 | 1 083 | 3 530          | 64-65                      | 682                                      | 32               | 43   | 30   | 111       |
| 1-2                                                                       | 3 278                                    | 260              | 297   | 273   | 830            | 65-66                      | 1 262                                    | 73               | 101  | 79   | 253       |
| 2-3                                                                       | 3 752                                    | 120              | 129   | 120   | 369            | 66-67                      | 565                                      | 37               | 50   | 37   | 121       |
| 3-4                                                                       | 3 692                                    | 67               | 63    | 56    | 186            | 67-68                      | 514                                      | 31               | 40   | 51   | 125       |
| 4-5                                                                       | 3 553                                    | 35               | 12    | 34    | 111            | 68-69                      | 569                                      | 50               | 15   | 43   | 138       |
| 5-6                                                                       | 3 390                                    | 22               | 26    | 35    | 83             | 69-70                      | 501                                      | 40               | 31   | 46   | 117       |
| 6-7                                                                       | 3 465                                    | 27               | 27    | 26    | 80             | 70-71                      | 847                                      | 63               | 78   | 79   | 220       |
| 7-8                                                                       | 3 377                                    | 23               | 17    | 18    | 58             | 71-72                      | 227                                      | 26               | 22   | 38   | 86        |
| 8-9                                                                       | 3 151                                    | 19               | 19    | 17    | 55             | 72-73                      | 376                                      | 32               | 31   | 38   | 101       |
| 9-10                                                                      | 3 230                                    | 17               | 25    | 17    | 59             | 73-74                      | 313                                      | 27               | 33   | 38   | 98        |
| 10-11                                                                     | 3 260                                    | 8                | 14    | 21    | 46             | 74-75                      | 255                                      | 25               | 32   | 42   | 99        |
| 11-12                                                                     | 2 919                                    | 20               | 20    | 20    | 60             | 75-76                      | 384                                      | 51               | 46   | 47   | 144       |
| 12-13                                                                     | 3 313                                    | 17               | 14    | 9     | 40             | 76-77                      | 199                                      | 29               | 23   | 27   | 79        |
| 13-14                                                                     | 3 142                                    | 15               | 21    | 18    | 54             | 77-78                      | 162                                      | 18               | 22   | 19   | 59        |
| 14-15                                                                     | 3 387                                    | 20               | 22    | 16    | 58             | 78-79                      | 160                                      | 13               | 19   | 17   | 49        |
| 15-16                                                                     | 3 003                                    | 25               | 27    | 18    | 70             | 79-80                      | 131                                      | 21               | 17   | 8    | 46        |
| 16-17                                                                     | 3 317                                    | 24               | 27    | 31    | 82             | 80-81                      | 227                                      | 26               | 43   | 33   | 102       |
| 17-18                                                                     | 3 322                                    | 36               | 37    | 39    | 112            | 81-82                      | 84                                       | 10               | 14   | 15   | 39        |
| 18-19                                                                     | 3 728                                    | 46               | 33    | 47    | 126            | 82-83                      | 91                                       | 10               | 13   | 13   | 36        |
| 19-20                                                                     | 3 901                                    | 44               | 52    | 42    | 138            | 83-84                      | 60                                       | 8                | 10   | 10   | 28        |
| 20-21                                                                     | 4 025                                    | 59               | 46    | 53    | 158            | 84-85                      | 53                                       | 6                | 15   | 11   | 32        |
| 21-22                                                                     | 4 717                                    | 44               | 61    | 55    | 163            | 85-86                      | 68                                       | 20               | 10   | 15   | 45        |
| 22-23                                                                     | 5 012                                    | 56               | 58    | 67    | 179            | 86-87                      | 44                                       | 7                | 6    | 10   | 23        |
| 23-24                                                                     | 5 153                                    | 65               | 69    | 63    | 197            | 87-88                      | 39                                       | 7                | 6    | 6    | 19        |
| 24-25                                                                     | 5 569                                    | 58               | 75    | 65    | 198            | 88-89                      | 28                                       | 12               | 7    | 7    | 26        |
| 25-26                                                                     | 6 207                                    | 72               | 68    | 80    | 220            | 89-90                      | 21                                       | 4                | 7    | 4    | 15        |
| 26-27                                                                     | 5 365                                    | 68               | 60    | 68    | 196            | 90-91                      | 37                                       | 5                | 4    | 13   | 22        |
| 27-28                                                                     | 5 222                                    | 76               | 80    | 71    | 227            | 91-92                      | 13                                       | 1                | 2    | 3    | 6         |
| 28-29                                                                     | 6 233                                    | 91               | 88    | 73    | 252            | 92-93                      | 11                                       | 3                | 2    | 5    | 10        |
| 29-30                                                                     | 5 121                                    | 69               | 72    | 86    | 227            | 93-94                      | 5                                        | 1                | 2    | 0    | 3         |
| 30-31                                                                     | 6 975                                    | 100              | 115   | 110   | 325            | 94-95                      | 6                                        | 1                | 2    | 1    | 4         |
| 31-32                                                                     | 3 691                                    | 48               | 56    | 58    | 162            | 95-96                      | 18                                       | 3                | 5    | 1    | 9         |
| 32-33                                                                     | 4 822                                    | 65               | 73    | 77    | 215            | 96-97                      | 3                                        | 0                | 2    | 2    | 4         |
| 33-34                                                                     | 4 016                                    | 72               | 78    | 71    | 221            | 97-98                      | 2                                        | 1                | 1    | 1    | 4         |
| 34-35                                                                     | 4 340                                    | 75               | 91    | 70    | 239            | 98-99                      | 5                                        | 2                | 0    | 1    | 3         |
| 35-36                                                                     | 0 132                                    | 101              | 108   | 109   | 318            | 99-100                     | 2                                        | 1                | 2    | 0    | 3         |
| 36-37                                                                     | 4 032                                    | 61               | 58    | 80    | 202            | 100-101                    | 7                                        | 4                | 2    | 1    | 7         |
| 37-38                                                                     | 3 716                                    | 58               | 86    | 75    | 219            | 101-102                    | 2                                        | 1                | 0    | 3    | 4         |
| 38-39                                                                     | 4 980                                    | 79               | 99    | 99    | 277            | 102-103                    | 2                                        | 1                | 2    | 0    | 3         |
| 39-40                                                                     | 3 998                                    | 60               | 81    | 86    | 227            | 103-104                    | 2                                        | 1                | 0    | 1    | 2         |
| 40-41                                                                     | 5 853                                    | 102              | 120   | 119   | 350            | 104-105                    | 1                                        | 0                | 0    | 2    | 2         |
| 41-42                                                                     | 2 317                                    | 58               | 50    | 47    | 155            | 105-106                    | 3                                        | 2                | 1    | 0    | 3         |
| 42-43                                                                     | 3 526                                    | 67               | 85    | 96    | 248            | 106-107                    | 2                                        | 1                | 0    | 1    | 2         |
| 43-44                                                                     | 2 453                                    | 66               | 66    | 75    | 207            | 107-108                    |                                          | 0                | 0    | 0    | 0         |
| 44-45                                                                     | 2 221                                    | 43               | 65    | 55    | 163            | 108-109                    |                                          | 2                | 0    | 0    | 2         |
| 45-46                                                                     | 3 677                                    | 78               | 92    | 86    | 256            | 109-110                    |                                          |                  | 0    | 1    | 1         |
| 46-47                                                                     | 1 767                                    | 42               | 50    | 45    | 137            | 110-111                    |                                          |                  | 2    |      | 2         |
| 47-48                                                                     | 1 818                                    | 51               | 51    | 57    | 162            | 112-113                    | 1                                        |                  |      |      |           |
| 48-49                                                                     | 2 479                                    | 66               | 67    | 68    | 201            |                            |                                          |                  |      |      |           |
| 49-50                                                                     | 2 335                                    | 64               | 70    | 56    | 190            |                            |                                          |                  |      |      |           |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                          |                  |       |       |                |                            |                                          |                  |      |      |           |
| CALENDAR YEAR.                                                            | AGE INTERVALS OF ONE YEAR.               |                  |       |       | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |                                          |                  |      |      |           |
|                                                                           | 0-1                                      | 1-2              | 2-3   | 3-4   |                | 1-2                        | 2-3                                      | 3-4              | 4-5  |      |           |
| 1912                                                                      | 1 065                                    | 250              | 97    | 50    | 1913           | 250                        | 111                                      | 66               | 38   |      |           |

TABLE 142 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR NEGRO FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

| AGE INTERVAL.                                                             |         | ESTIMATED POPULATION JULY 1, 1910. | REPORTED DEATHS. |       |       |                | AGE INTERVAL. |                            | ESTIMATED POPULATION JULY 1, 1910. | REPORTED DEATHS. |      |      |           |
|---------------------------------------------------------------------------|---------|------------------------------------|------------------|-------|-------|----------------|---------------|----------------------------|------------------------------------|------------------|------|------|-----------|
|                                                                           |         |                                    | 1909             | 1910  | 1911  | 1909-1911      |               |                            |                                    | 1909             | 1910 | 1911 | 1909-1911 |
| 1                                                                         | 2       |                                    | 3                | 4     | 5     | 6              | 7             | 8                          | 9                                  | 10               | 11   | 12   |           |
| All ages.                                                                 | 239 814 |                                    | 5 025            | 5 491 | 5 347 | 15 853         | Years.        | 3 946                      | 76                                 | 105              | 89   | 270  |           |
| INFANT MORTALITY BY MONTHS.                                               |         |                                    |                  |       |       |                |               |                            |                                    |                  |      |      |           |
| Months.                                                                   |         |                                    |                  |       |       |                | 50-51         | 1 215                      | 30                                 | 46               | 62   | 138  |           |
| 0-1                                                                       | .....   | 330                                | 358              | 339   | 1 027 |                | 51-52         | 1 867                      | 58                                 | 65               | 62   | 185  |           |
| 1-2                                                                       | .....   | 75                                 | 102              | 104   | 281   |                | 52-53         | 1 283                      | 47                                 | 32               | 42   | 121  |           |
| 2-3                                                                       | .....   | 72                                 | 90               | 68    | 230   |                | 53-54         | 1 503                      | 38                                 | 49               | 54   | 141  |           |
| 3-4                                                                       | .....   | 85                                 | 86               | 60    | 231   |                | 54-55         |                            |                                    |                  |      |      |           |
| 4-5                                                                       | .....   | 60                                 | 70               | 60    | 190   |                | 55-56         | 1 856                      | 64                                 | 64               | 63   | 191  |           |
| 5-6                                                                       | .....   | 46                                 | 61               | 51    | 158   |                | 56-57         | 1 284                      | 49                                 | 43               | 67   | 159  |           |
| 6-7                                                                       | .....   | 59                                 | 63               | 54    | 176   |                | 57-58         | 979                        | 39                                 | 34               | 51   | 124  |           |
| 7-8                                                                       | .....   | 51                                 | 69               | 42    | 162   |                | 58-59         | 1 155                      | 40                                 | 54               | 57   | 151  |           |
| 8-9                                                                       | .....   | 47                                 | 50               | 52    | 149   |                | 59-60         | 1 018                      | 40                                 | 52               | 53   | 145  |           |
| 9-10                                                                      | .....   | 40                                 | 45               | 39    | 124   |                | 60-61         | 2 211                      | 87                                 | 88               | 99   | 274  |           |
| 10-11                                                                     | .....   | 43                                 | 56               | 37    | 136   |                | 61-62         | 524                        | 31                                 | 38               | 39   | 108  |           |
| 11-12                                                                     | .....   | 45                                 | 39               | 25    | 109   |                | 62-63         | 772                        | 40                                 | 39               | 47   | 126  |           |
| AGE INTERVALS OF ONE YEAR.                                                |         |                                    |                  |       |       |                |               |                            |                                    |                  |      |      |           |
| Years.                                                                    |         |                                    |                  |       |       |                | 63-64         | 736                        | 39                                 | 40               | 40   | 119  |           |
| 0-1                                                                       | 4 001   | 953                                | 1 089            | 931   | 2 973 |                | 64-65         | 634                        | 30                                 | 36               | 41   | 107  |           |
| 1-2                                                                       | 3 480   | 250                                | 283              | 231   | 764   |                | 65-66         | 1 288                      | 59                                 | 70               | 77   | 206  |           |
| 2-3                                                                       | 3 889   | 116                                | 99               | 82    | 297   |                | 66-67         | 496                        | 37                                 | 36               | 34   | 107  |           |
| 3-4                                                                       | 3 950   | 63                                 | 63               | 59    | 185   |                | 67-68         | 479                        | 35                                 | 49               | 36   | 120  |           |
| 4-5                                                                       | 3 704   | 42                                 | 49               | 42    | 133   |                | 68-69         | 520                        | 47                                 | 39               | 36   | 122  |           |
| 5-6                                                                       | 3 643   | 35                                 | 25               | 26    | 86    |                | 69-70         | 465                        | 38                                 | 35               | 34   | 107  |           |
| 6-7                                                                       | 3 550   | 26                                 | 14               | 25    | 65    |                | 70-71         | 929                        | 61                                 | 76               | 54   | 191  |           |
| 7-8                                                                       | 3 537   | 13                                 | 23               | 25    | 61    |                | 71-72         | 260                        | 19                                 | 17               | 32   | 68   |           |
| 8-9                                                                       | 3 535   | 17                                 | 23               | 18    | 58    |                | 72-73         | 396                        | 23                                 | 28               | 37   | 88   |           |
| 9-10                                                                      | 3 313   | 17                                 | 25               | 14    | 56    |                | 73-74         | 267                        | 33                                 | 11               | 32   | 76   |           |
| 10-11                                                                     | 3 530   | 22                                 | 14               | 12    | 48    |                | 74-75         | 272                        | 20                                 | 24               | 31   | 75   |           |
| 11-12                                                                     | 3 112   | 26                                 | 21               | 19    | 66    |                | 75-76         | 469                        | 42                                 | 45               | 49   | 136  |           |
| 12-13                                                                     | 3 698   | 19                                 | 25               | 10    | 54    |                | 76-77         | 242                        | 17                                 | 24               | 28   | 69   |           |
| 13-14                                                                     | 3 466   | 28                                 | 24               | 29    | 81    |                | 77-78         | 154                        | 22                                 | 13               | 12   | 47   |           |
| 14-15                                                                     | 3 680   | 36                                 | 32               | 28    | 96    |                | 78-79         | 189                        | 13                                 | 26               | 18   | 57   |           |
| 15-16                                                                     | 3 380   | 31                                 | 33               | 39    | 103   |                | 79-80         | 152                        | 19                                 | 17               | 19   | 55   |           |
| 16-17                                                                     | 3 862   | 36                                 | 38               | 25    | 99    |                | 80-81         | 315                        | 39                                 | 40               | 44   | 123  |           |
| 17-18                                                                     | 3 892   | 49                                 | 45               | 44    | 138   |                | 81-82         | 89                         | 10                                 | 10               | 14   | 34   |           |
| 18-19                                                                     | 4 749   | 51                                 | 53               | 46    | 150   |                | 82-83         | 112                        | 8                                  | 15               | 26   | 49   |           |
| 19-20                                                                     | 4 819   | 49                                 | 56               | 50    | 155   |                | 83-84         | 85                         | 16                                 | 14               | 11   | 41   |           |
| 20-21                                                                     | 5 477   | 41                                 | 61               | 69    | 171   |                | 84-85         | 76                         | 10                                 | 14               | 10   | 34   |           |
| 21-22                                                                     | 5 044   | 50                                 | 57               | 67    | 174   |                | 85-86         | 103                        | 16                                 | 16               | 29   | 61   |           |
| 22-23                                                                     | 5 991   | 65                                 | 58               | 56    | 179   |                | 86-87         | 60                         | 7                                  | 10               | 9    | 26   |           |
| 23-24                                                                     | 6 321   | 57                                 | 72               | 76    | 205   |                | 87-88         | 47                         | 12                                 | 11               | 12   | 35   |           |
| 24-25                                                                     | 6 675   | 75                                 | 77               | 61    | 213   |                | 88-89         | 40                         | 11                                 | 8                | 6    | 25   |           |
| 25-26                                                                     | 7 140   | 69                                 | 65               | 60    | 200   |                | 89-90         | 63                         | 13                                 | 9                | 11   | 33   |           |
| 26-27                                                                     | 6 252   | 66                                 | 74               | 69    | 209   |                | 90-91         | 80                         | 7                                  | 15               | 19   | 41   |           |
| 27-28                                                                     | 5 599   | 50                                 | 61               | 48    | 159   |                | 91-92         | 22                         | 4                                  | 3                | 5    | 12   |           |
| 28-29                                                                     | 6 851   | 66                                 | 79               | 77    | 222   |                | 92-93         | 19                         | 4                                  | 4                | 3    | 11   |           |
| 29-30                                                                     | 5 558   | 73                                 | 58               | 65    | 196   |                | 93-94         | 16                         | 2                                  | 2                | 7    | 11   |           |
| 30-31                                                                     | 7 567   | 75                                 | 76               | 97    | 248   |                | 94-95         | 12                         | 7                                  | 1                | 1    | 9    |           |
| 31-32                                                                     | 3 570   | 53                                 | 57               | 48    | 158   |                | 95-96         | 30                         | 4                                  | 5                | 7    | 16   |           |
| 32-33                                                                     | 4 971   | 55                                 | 68               | 63    | 186   |                | 96-97         | 14                         | 2                                  | 2                | 5    | 9    |           |
| 33-34                                                                     | 4 127   | 59                                 | 61               | 62    | 182   |                | 97-98         | 10                         | 3                                  | 1                | 2    | 6    |           |
| 34-35                                                                     | 4 332   | 52                                 | 66               | 58    | 176   |                | 98-99         | 11                         | 8                                  | 4                | 6    | 18   |           |
| 35-36                                                                     | 5 856   | 65                                 | 78               | 97    | 240   |                | 99-100        | 8                          | 1                                  | 4                | 2    | 7    |           |
| 36-37                                                                     | 4 001   | 49                                 | 57               | 69    | 175   |                | 100-101       | 18                         | 4                                  | 9                | 3    | 16   |           |
| 37-38                                                                     | 3 521   | 55                                 | 52               | 72    | 179   |                | 101-102       | 3                          | 1                                  | 1                | 2    | 4    |           |
| 38-39                                                                     | 5 106   | 77                                 | 78               | 81    | 236   |                | 102-103       | 6                          | 3                                  | 1                | 2    | 6    |           |
| 39-40                                                                     | 4 077   | 65                                 | 65               | 72    | 202   |                | 103-104       | 0                          | 2                                  | 1                | 1    | 4    |           |
| 40-41                                                                     | 5 946   | 83                                 | 112              | 91    | 286   |                | 104-105       | 2                          | 2                                  | 0                | 0    | 2    |           |
| 41-42                                                                     | 2 053   | 39                                 | 38               | 52    | 129   |                | 105-106       | 3                          | 0                                  | 0                | 0    | 0    |           |
| 42-43                                                                     | 3 154   | 60                                 | 60               | 77    | 197   |                | 106-107       | 1                          | 2                                  | 0                | 1    | 3    |           |
| 43-44                                                                     | 2 391   | 45                                 | 58               | 50    | 153   |                | 107-108       | 2                          | 1                                  | 0                | 0    | 1    |           |
| 44-45                                                                     | 2 133   | 45                                 | 67               | 45    | 157   |                | 108-109       | 0                          | 1                                  | 1                | 1    | 3    |           |
| 45-46                                                                     | 3 763   | 68                                 | 73               | 76    | 217   |                | 109-110       | 4                          | 0                                  | 0                | 0    | 0    |           |
| 46-47                                                                     | 1 855   | 61                                 | 49               | 51    | 161   |                | 110-111       | 4                          | 1                                  | 3                | 1    | 5    |           |
| 47-48                                                                     | 1 859   | 33                                 | 53               | 32    | 118   |                | 111-112       | 0                          | 0                                  | 0                | 1    | 1    |           |
| 48-49                                                                     | 2 655   | 47                                 | 57               | 65    | 169   |                | 112-113       | 3                          | 0                                  | 2                | 2    | 2    |           |
| 49-50                                                                     | 2 352   | 52                                 | 57               | 44    | 153   |                | 113-114       | 0                          | 0                                  | 1                | 1    | 1    |           |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |         |                                    |                  |       |       |                |               |                            |                                    |                  |      |      |           |
| CALENDAR YEAR.                                                            |         | AGE INTERVALS OF ONE YEAR.         |                  |       |       | CALENDAR YEAR. |               | AGE INTERVALS OF ONE YEAR. |                                    |                  |      |      |           |
|                                                                           |         | 0-1                                | 1-2              | 2-3   | 3-4   |                |               | 1-2                        | 2-3                                | 3-4              | 4-5  |      |           |
| 1912                                                                      |         | 937                                | 240              | 97    | 58    | 1913           |               | 210                        | 96                                 | 60               | 34   |      |           |

TABLE 143 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR NATIVE WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

| AGE INTERVAL.               |           | ESTIMATED POPULATION JULY 1, 1910. | REPORTED DEATHS. |         |         |           |
|-----------------------------|-----------|------------------------------------|------------------|---------|---------|-----------|
|                             |           |                                    | 1909             | 1910    | 1911    | 1909-1911 |
| 1                           | 2         | 3                                  | 4                | 5       | 6       |           |
| All ages.                   | 8 753 112 | 132 091                            | 140 845          | 135 722 | 408 658 |           |
| INFANT MORTALITY BY MONTHS. |           |                                    |                  |         |         |           |
| Months.                     |           |                                    |                  |         |         |           |
| 0-1                         |           | 14 199                             | 14 808           | 14 785  | 43 792  |           |
| 1-2                         |           | 3 642                              | 3 937            | 3 621   | 11 200  |           |
| 2-3                         |           | 2 880                              | 3 229            | 2 785   | 8 891   |           |
| 3-4                         |           | 2 639                              | 2 764            | 2 407   | 7 810   |           |
| 4-5                         |           | 2 217                              | 2 445            | 2 065   | 6 757   |           |
| 5-6                         |           | 1 985                              | 2 144            | 1 798   | 5 927   |           |
| 6-7                         |           | 1 780                              | 2 034            | 1 681   | 5 495   |           |
| 7-8                         |           | 1 591                              | 1 767            | 1 461   | 4 819   |           |
| 8-9                         |           | 1 590                              | 1 616            | 1 349   | 4 555   |           |
| 9-10                        |           | 1 425                              | 1 487            | 1 292   | 4 204   |           |
| 10-11                       |           | 1 269                              | 1 198            | 1 105   | 3 572   |           |
| 11-12                       |           | 1 206                              | 1 271            | 1 032   | 3 509   |           |
| AGE INTERVALS OF ONE YEAR.  |           |                                    |                  |         |         |           |
| Years.                      |           |                                    |                  |         |         |           |
| 0-1                         | 252 695   | 36 453                             | 38 700           | 35 381  | 110 534 |           |
| 1-2                         | 223 269   | 7 371                              | 7 534            | 6 510   | 21 415  |           |
| 2-3                         | 243 035   | 3 085                              | 3 288            | 2 752   | 9 125   |           |
| 3-4                         | 235 463   | 1 782                              | 1 977            | 1 706   | 5 465   |           |
| 4-5                         | 223 651   | 1 279                              | 1 323            | 1 214   | 3 816   |           |
| 5-6                         | 213 901   | 1 020                              | 1 016            | 899     | 2 935   |           |
| 6-7                         | 209 591   | 782                                | 860              | 791     | 2 433   |           |
| 7-8                         | 205 030   | 632                                | 732              | 669     | 2 033   |           |
| 8-9                         | 196 580   | 553                                | 603              | 593     | 1 749   |           |
| 9-10                        | 191 841   | 459                                | 534              | 497     | 1 490   |           |
| 10-11                       | 193 656   | 477                                | 437              | 465     | 1 379   |           |
| 11-12                       | 182 450   | 456                                | 478              | 441     | 1 375   |           |
| 12-13                       | 197 338   | 421                                | 418              | 391     | 1 236   |           |
| 13-14                       | 189 462   | 439                                | 476              | 436     | 1 351   |           |
| 14-15                       | 192 023   | 444                                | 470              | 482     | 1 405   |           |
| 15-16                       | 178 709   | 476                                | 495              | 471     | 1 442   |           |
| 16-17                       | 191 292   | 578                                | 548              | 538     | 1 662   |           |
| 17-18                       | 184 302   | 630                                | 730              | 697     | 2 063   |           |
| 18-19                       | 180 712   | 698                                | 776              | 747     | 2 221   |           |
| 19-20                       | 170 644   | 784                                | 802              | 791     | 2 380   |           |
| 20-21                       | 159 708   | 727                                | 810              | 816     | 2 353   |           |
| 21-22                       | 161 608   | 824                                | 851              | 828     | 2 503   |           |
| 22-23                       | 151 181   | 772                                | 875              | 862     | 2 509   |           |
| 23-24                       | 150 803   | 768                                | 806              | 801     | 2 438   |           |
| 24-25                       | 147 476   | 709                                | 825              | 819     | 2 473   |           |
| 25-26                       | 142 316   | 820                                | 860              | 813     | 2 523   |           |
| 26-27                       | 138 176   | 759                                | 814              | 780     | 2 353   |           |
| 27-28                       | 129 957   | 793                                | 872              | 891     | 2 556   |           |
| 28-29                       | 135 640   | 862                                | 906              | 924     | 2 692   |           |
| 29-30                       | 120 595   | 815                                | 861              | 793     | 2 472   |           |
| 30-31                       | 138 478   | 891                                | 933              | 891     | 2 721   |           |
| 31-32                       | 103 850   | 827                                | 841              | 864     | 2 532   |           |
| 32-33                       | 120 507   | 933                                | 993              | 956     | 2 902   |           |
| 33-34                       | 111 975   | 900                                | 953              | 901     | 2 757   |           |
| 34-35                       | 118 051   | 933                                | 999              | 1 020   | 2 952   |           |
| 35-36                       | 127 991   | 1 063                              | 1 134            | 1 119   | 3 316   |           |
| 36-37                       | 110 414   | 995                                | 1 018            | 1 094   | 3 107   |           |
| 37-38                       | 104 372   | 940                                | 1 037            | 1 010   | 2 987   |           |
| 38-39                       | 117 987   | 1 062                              | 1 100            | 1 197   | 3 365   |           |
| 39-40                       | 102 741   | 1 065                              | 1 029            | 1 018   | 3 112   |           |
| 40-41                       | 123 308   | 1 085                              | 1 169            | 1 154   | 3 438   |           |
| 41-42                       | 82 139    | 819                                | 911              | 966     | 2 776   |           |
| 42-43                       | 104 000   | 1 010                              | 1 075            | 1 077   | 3 192   |           |
| 43-44                       | 86 036    | 971                                | 959              | 1 010   | 2 940   |           |
| 44-45                       | 79 585    | 856                                | 901              | 964     | 2 721   |           |
| 45-46                       | 92 653    | 1 020                              | 1 016            | 1 111   | 3 147   |           |
| 46-47                       | 71 663    | 875                                | 911              | 877     | 2 663   |           |
| 47-48                       | 74 478    | 874                                | 1 056            | 993     | 2 923   |           |
| 48-49                       | 84 331    | 1 137                              | 1 131            | 1 067   | 3 335   |           |
| 49-50                       | 61 088    | 1 062                              | 1 139            | 1 097   | 3 298   |           |

| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                            |       |       |       |                |                            |       |       |       |
|---------------------------------------------------------------------------|----------------------------|-------|-------|-------|----------------|----------------------------|-------|-------|-------|
| CALENDAR YEAR.                                                            | AGE INTERVALS OF ONE YEAR. |       |       |       | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |       |       |       |
|                                                                           | 0-1                        | 1-2   | 2-3   | 3-4   |                | 1-2                        | 2-3   | 3-4   | 4-5   |
| 1912                                                                      | 34 828                     | 6 469 | 2 673 | 1 575 | 1913           | 6 770                      | 2 934 | 1 771 | 1 319 |



TABLE 144 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR NATIVE WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

| AGE<br>INTERVAL.                                                          | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |         |         |                | AGE<br>INTERVAL.           | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |       |       |           |
|---------------------------------------------------------------------------|------------------------------------------|------------------|---------|---------|----------------|----------------------------|------------------------------------------|------------------|-------|-------|-----------|
|                                                                           |                                          | 1909             | 1910    | 1911    | 1909-1911      |                            |                                          | 1909             | 1910  | 1911  | 1909-1911 |
| 1                                                                         | 2                                        | 3                | 4       | 5       | 6              | 7                          | 8                                        | 9                | 10    | 11    | 12        |
| All ages.                                                                 | 8 872 897                                | 116 471          | 123 551 | 119 064 | 359 086        | Years.                     |                                          |                  |       |       |           |
| INFANT MORTALITY BY MONTHS.                                               |                                          |                  |         |         |                | 50-51                      | 98 939                                   | 918              | 1 104 | 1 081 | 3 103     |
| Months.                                                                   |                                          |                  |         |         |                | 51-52                      | 61 250                                   | 820              | 826   | 911   | 2 557     |
| 0-1                                                                       | 10 503                                   | 11 043           | 10 999  | 32 545  |                | 52-53                      | 75 334                                   | 894              | 1 011 | 1 013 | 2 918     |
| 1-2                                                                       | 2 816                                    | 3 000            | 2 671   | 8 487   |                | 53-54                      | 63 975                                   | 869              | 988   | 950   | 2 807     |
| 2-3                                                                       | 2 311                                    | 2 656            | 2 239   | 7 206   |                | 54-55                      | 65 032                                   | 981              | 969   | 1 034 | 2 984     |
| 3-4                                                                       | 2 061                                    | 2 271            | 1 924   | 6 256   |                | 55-56                      | 62 098                                   | 914              | 986   | 1 081 | 2 981     |
| 4-5                                                                       | 1 828                                    | 1 927            | 1 695   | 5 450   |                | 56-57                      | 56 030                                   | 866              | 1 006 | 997   | 2 869     |
| 5-6                                                                       | 1 544                                    | 1 838            | 1 428   | 4 810   |                | 57-58                      | 48 323                                   | 884              | 970   | 1 010 | 2 864     |
| 6-7                                                                       | 1 500                                    | 1 689            | 1 445   | 4 634   |                | 58-59                      | 51 561                                   | 960              | 989   | 1 113 | 3 062     |
| 7-8                                                                       | 1 355                                    | 1 384            | 1 222   | 3 961   |                | 59-60                      | 46 252                                   | 972              | 963   | 1 019 | 2 954     |
| 8-9                                                                       | 1 334                                    | 1 335            | 1 155   | 3 824   |                | 60-61                      | 57 020                                   | 1 025            | 1 147 | 1 161 | 3 333     |
| 9-10                                                                      | 1 241                                    | 1 238            | 1 109   | 3 588   |                | 61-62                      | 35 580                                   | 882              | 935   | 1 110 | 2 927     |
| 10-11                                                                     | 1 078                                    | 1 124            | 1 012   | 3 214   |                | 62-63                      | 41 720                                   | 1 036            | 1 130 | 1 139 | 3 325     |
| 11-12                                                                     | 1 059                                    | 1 163            | 900     | 3 122   |                | 63-64                      | 39 322                                   | 1 068            | 1 113 | 1 147 | 3 328     |
| AGE INTERVALS OF ONE YEAR.                                                |                                          |                  |         |         |                | 64-65                      | 37 653                                   | 1 122            | 1 138 | 1 145 | 3 405     |
| Years.                                                                    |                                          |                  |         |         |                | 65-66                      | 42 253                                   | 1 225            | 1 398 | 1 314 | 3 937     |
| 0-1                                                                       | 246 328                                  | 28 630           | 30 668  | 27 799  | 87 097         | 66-67                      | 32 350                                   | 1 105            | 1 276 | 1 253 | 3 634     |
| 1-2                                                                       | 218 027                                  | 6 714            | 6 577   | 5 860   | 19 151         | 67-68                      | 30 821                                   | 1 217            | 1 297 | 1 371 | 3 885     |
| 2-3                                                                       | 237 213                                  | 2 691            | 2 924   | 2 434   | 8 049          | 68-69                      | 31 500                                   | 1 293            | 1 327 | 1 331 | 3 951     |
| 3-4                                                                       | 230 876                                  | 1 628            | 1 823   | 1 596   | 5 047          | 69-70                      | 28 084                                   | 1 304            | 1 362 | 1 300 | 3 966     |
| 4-5                                                                       | 218 964                                  | 1 157            | 1 224   | 1 137   | 3 518          | 70-71                      | 31 406                                   | 1 309            | 1 509 | 1 525 | 4 343     |
| 5-6                                                                       | 210 391                                  | 939              | 979     | 877     | 2 795          | 71-72                      | 20 219                                   | 1 214            | 1 285 | 1 424 | 3 923     |
| 6-7                                                                       | 207 513                                  | 766              | 831     | 697     | 2 294          | 72-73                      | 23 729                                   | 1 437            | 1 459 | 1 448 | 4 344     |
| 7-8                                                                       | 200 489                                  | 558              | 662     | 645     | 1 865          | 73-74                      | 21 105                                   | 1 390            | 1 486 | 1 445 | 4 321     |
| 8-9                                                                       | 194 662                                  | 501              | 527     | 514     | 1 542          | 74-75                      | 19 231                                   | 1 284            | 1 450 | 1 414 | 4 148     |
| 9-10                                                                      | 186 860                                  | 417              | 449     | 384     | 1 250          | 75-76                      | 19 206                                   | 1 377            | 1 473 | 1 489 | 4 339     |
| 10-11                                                                     | 190 941                                  | 405              | 410     | 344     | 1 159          | 76-77                      | 16 723                                   | 1 356            | 1 503 | 1 464 | 4 323     |
| 11-12                                                                     | 181 216                                  | 356              | 348     | 352     | 1 056          | 77-78                      | 13 402                                   | 1 314            | 1 425 | 1 355 | 4 094     |
| 12-13                                                                     | 194 722                                  | 362              | 440     | 358     | 1 160          | 78-79                      | 12 554                                   | 1 292            | 1 286 | 1 378 | 3 956     |
| 13-14                                                                     | 188 340                                  | 434              | 427     | 435     | 1 296          | 79-80                      | 10 692                                   | 1 264            | 1 298 | 1 322 | 3 884     |
| 14-15                                                                     | 188 382                                  | 415              | 511     | 427     | 1 353          | 80-81                      | 10 565                                   | 1 179            | 1 330 | 1 305 | 3 814     |
| 15-16                                                                     | 179 960                                  | 442              | 503     | 492     | 1 437          | 81-82                      | 7 338                                    | 1 044            | 1 085 | 1 163 | 3 292     |
| 16-17                                                                     | 193 510                                  | 588              | 553     | 474     | 1 615          | 82-83                      | 7 382                                    | 1 061            | 1 202 | 1 160 | 3 423     |
| 17-18                                                                     | 181 643                                  | 614              | 638     | 584     | 1 836          | 83-84                      | 0 310                                    | 932              | 1 093 | 1 101 | 3 126     |
| 18-19                                                                     | 189 155                                  | 708              | 662     | 674     | 2 044          | 84-85                      | 5 539                                    | 906              | 967   | 996   | 2 869     |
| 19-20                                                                     | 171 667                                  | 696              | 695     | 730     | 2 121          | 85-86                      | 4 612                                    | 840              | 896   | 850   | 2 586     |
| 20-21                                                                     | 175 952                                  | 707              | 795     | 773     | 2 275          | 86-87                      | 3 658                                    | 733              | 788   | 797   | 2 318     |
| 21-22                                                                     | 163 204                                  | 738              | 803     | 784     | 2 325          | 87-88                      | 3 047                                    | 682              | 684   | 692   | 2 058     |
| 22-23                                                                     | 165 232                                  | 774              | 876     | 829     | 2 479          | 88-89                      | 2 398                                    | 586              | 547   | 558   | 1 691     |
| 23-24                                                                     | 162 164                                  | 819              | 858     | 796     | 2 473          | 89-90                      | 1 909                                    | 473              | 502   | 537   | 1 512     |
| 24-25                                                                     | 157 012                                  | 857              | 859     | 805     | 2 521          | 90-91                      | 1 485                                    | 382              | 420   | 422   | 1 224     |
| 25-26                                                                     | 156 930                                  | 806              | 784     | 843     | 2 433          | 91-92                      | 937                                      | 293              | 290   | 301   | 884       |
| 26-27                                                                     | 145 573                                  | 836              | 843     | 819     | 2 498          | 92-93                      | 780                                      | 230              | 280   | 246   | 756       |
| 27-28                                                                     | 134 222                                  | 776              | 853     | 808     | 2 437          | 93-94                      | 582                                      | 190              | 192   | 216   | 598       |
| 28-29                                                                     | 144 086                                  | 825              | 844     | 787     | 2 456          | 94-95                      | 411                                      | 136              | 156   | 170   | 462       |
| 29-30                                                                     | 121 623                                  | 764              | 824     | 747     | 2 335          | 95-96                      | 328                                      | 104              | 115   | 116   | 335       |
| 30-31                                                                     | 151 392                                  | 794              | 831     | 820     | 2 445          | 96-97                      | 160                                      | 87               | 67    | 72    | 226       |
| 31-32                                                                     | 106 334                                  | 696              | 728     | 717     | 2 141          | 97-98                      | 96                                       | 60               | 67    | 51    | 178       |
| 32-33                                                                     | 127 241                                  | 855              | 821     | 818     | 2 494          | 98-99                      | 71                                       | 40               | 37    | 41    | 118       |
| 33-34                                                                     | 114 596                                  | 766              | 796     | 784     | 2 346          | 99-100                     | 58                                       | 20               | 15    | 24    | 59        |
| 34-35                                                                     | 119 930                                  | 753              | 839     | 815     | 2 407          | 100-101                    | 28                                       | 17               | 19    | 23    | 59        |
| 35-36                                                                     | 132 699                                  | 829              | 882     | 988     | 2 699          | 101-102                    | 10                                       | 10               | 8     | 8     | 26        |
| 36-37                                                                     | 114 131                                  | 810              | 815     | 855     | 2 480          | 102-103                    | 5                                        | 3                | 7     | 4     | 14        |
| 37-38                                                                     | 105 657                                  | 818              | 826     | 824     | 2 468          | 103-104                    | 4                                        | 1                | 5     | 2     | 8         |
| 38-39                                                                     | 121 923                                  | 906              | 874     | 937     | 2 717          | 104-105                    | 4                                        | 0                | 0     | 1     | 1         |
| 39-40                                                                     | 101 994                                  | 864              | 818     | 822     | 2 504          | 105-106                    | 1                                        | 0                | 2     | 0     | 2         |
| 40-41                                                                     | 128 713                                  | 866              | 930     | 847     | 2 643          | 106-107                    | 2                                        | 1                | 0     | 1     | 2         |
| 41-42                                                                     | 80 731                                   | 643              | 750     | 712     | 2 111          | 107-108                    | 2                                        | 0                | 0     | 1     | 1         |
| 42-43                                                                     | 104 107                                  | 838              | 851     | 868     | 2 557          | 108-109                    | 1                                        | 3                | 1     |       | 4         |
| 43-44                                                                     | 86 780                                   | 704              | 784     | 800     | 2 294          | 109-110                    | 0                                        | 1                |       |       | 1         |
| 44-45                                                                     | 79 820                                   | 702              | 759     | 805     | 2 266          | 110-111                    | 0                                        | 0                |       |       | 0         |
| 45-46                                                                     | 93 731                                   | 776              | 788     | 868     | 2 432          | 111-112                    | 0                                        | 1                |       |       | 1         |
| 46-47                                                                     | 73 328                                   | 740              | 779     | 772     | 2 291          | 112-113                    | 0                                        |                  |       |       |           |
| 47-48                                                                     | 75 128                                   | 768              | 830     | 784     | 2 382          | 113-114                    | 0                                        |                  |       |       |           |
| 48-49                                                                     | 87 454                                   | 905              | 886     | 911     | 2 702          | 114-115                    | 1                                        |                  |       |       |           |
| 49-50                                                                     | 79 259                                   | 908              | 924     | 905     | 2 737          |                            |                                          |                  |       |       |           |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                          |                  |         |         |                |                            |                                          |                  |       |       |           |
| CALENDAR YEAR.                                                            | AGE INTERVALS OF ONE YEAR.               |                  |         |         | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |                                          |                  |       |       |           |
|                                                                           | 0-1                                      | 1-2              | 2-3     | 3-4     |                | 1-2                        | 2-3                                      | 3-4              | 4-5   |       |           |
| 1912                                                                      | 27 173                                   | 5 575            | 2 375   | 1 395   | 1913           | 5 966                      | 2 545                                    | 1 642            | 1 190 |       |           |

TABLE 145 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR THE FOREIGN-BORN WHITE MALES IN THE ORIGINAL REGISTRATION  
STATES: 1910.

Unknown ages distributed.

| AGE<br>INTERVAL.                                                          | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |        |        |                | AGE<br>INTERVAL.           | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |       |       |           |
|---------------------------------------------------------------------------|------------------------------------------|------------------|--------|--------|----------------|----------------------------|------------------------------------------|------------------|-------|-------|-----------|
|                                                                           |                                          | 1909             | 1910   | 1911   | 1909-1911      |                            |                                          | 1909             | 1910  | 1911  | 1909-1911 |
| 1                                                                         | 2                                        | 3                | 4      | 5      | 6              | 7                          | 8                                        | 9                | 10    | 11    | 12        |
| All ages.                                                                 | 3 179 851                                | 50 282           | 53 916 | 54 775 | 159 003        | Years.                     |                                          |                  |       |       |           |
| INFANT MORTALITY BY MONTHS.                                               |                                          |                  |        |        |                | 50-51                      | 67 905                                   | 1 073            | 1 237 | 1 206 | 3 516     |
| Months.                                                                   | 0-1                                      | 14               | 11     | 10     | 35             | 51-52                      | 30 343                                   | 600              | 651   | 734   | 1 985     |
|                                                                           | 1-2                                      | 8                | 8      | 8      | 24             | 52-53                      | 42 035                                   | 759              | 873   | 875   | 2 507     |
|                                                                           | 2-3                                      | 15               | 8      | 11     | 31             | 53-54                      | 32 150                                   | 705              | 720   | 787   | 2 212     |
|                                                                           | 3-4                                      | 23               | 13     | 14     | 50             | 54-55                      | 32 684                                   | 733              | 804   | 807   | 2 344     |
|                                                                           | 4-5                                      | 26               | 15     | 8      | 49             | 55-56                      | 36 683                                   | 890              | 1 016 | 979   | 2 885     |
|                                                                           | 5-6                                      | 19               | 16     | 23     | 58             | 56-57                      | 30 375                                   | 786              | 836   | 876   | 2 498     |
|                                                                           | 6-7                                      | 24               | 20     | 18     | 62             | 57-58                      | 24 081                                   | 717              | 827   | 816   | 2 360     |
|                                                                           | 7-8                                      | 18               | 24     | 15     | 57             | 58-59                      | 28 361                                   | 810              | 907   | 881   | 2 631     |
|                                                                           | 8-9                                      | 26               | 26     | 14     | 66             | 59-60                      | 23 911                                   | 857              | 811   | 806   | 2 474     |
|                                                                           | 9-10                                     | 21               | 18     | 14     | 53             | 60-61                      | 40 028                                   | 1 357            | 1 378 | 1 132 | 4 167     |
|                                                                           | 10-11                                    | 24               | 19     | 15     | 58             | 61-62                      | 18 431                                   | 771              | 822   | 933   | 2 526     |
|                                                                           | 11-12                                    | 19               | 20     | 12     | 51             | 62-63                      | 23 755                                   | 970              | 1 034 | 1 103 | 3 107     |
|                                                                           | AGE INTERVALS OF ONE YEAR.               |                  |        |        |                |                            | 63-64                                    | 20 958           | 1 000 | 1 012 | 986       |
| Years.                                                                    | 0-1                                      | 237              | 198    | 162    | 597            | 64-65                      | 20 705                                   | 942              | 1 083 | 1 007 | 3 032     |
|                                                                           | 1-2                                      | 159              | 193    | 169    | 521            | 65-66                      | 28 143                                   | 1 351            | 1 371 | 1 448 | 4 170     |
|                                                                           | 2-3                                      | 121              | 116    | 108    | 345            | 66-67                      | 16 931                                   | 895              | 995   | 973   | 2 863     |
|                                                                           | 3-4                                      | 6 522            | 103    | 78     | 80             | 67-68                      | 16 131                                   | 986              | 1 045 | 1 082 | 3 113     |
|                                                                           | 4-5                                      | 8 961            | 80     | 75     | 66             | 68-69                      | 16 986                                   | 1 062            | 1 108 | 1 171 | 3 341     |
|                                                                           | 5-6                                      | 11 703           | 73     | 57     | 68             | 69-70                      | 14 025                                   | 936              | 995   | 918   | 2 859     |
|                                                                           | 6-7                                      | 13 927           | 67     | 62     | 53             | 70-71                      | 20 117                                   | 1 236            | 1 418 | 1 349 | 4 003     |
|                                                                           | 7-8                                      | 15 359           | 62     | 58     | 55             | 71-72                      | 9 506                                    | 795              | 873   | 990   | 2 658     |
|                                                                           | 8-9                                      | 16 265           | 61     | 49     | 55             | 72-73                      | 12 166                                   | 993              | 999   | 1 031 | 3 026     |
|                                                                           | 9-10                                     | 16 475           | 41     | 39     | 32             | 73-74                      | 10 158                                   | 938              | 984   | 976   | 2 898     |
|                                                                           | 10-11                                    | 18 639           | 42     | 49     | 41             | 74-75                      | 9 343                                    | 867              | 919   | 945   | 2 731     |
|                                                                           | 11-12                                    | 17 033           | 44     | 39     | 47             | 75-76                      | 10 983                                   | 1 008            | 1 084 | 1 153 | 3 245     |
|                                                                           | 12-13                                    | 19 927           | 41     | 46     | 49             | 76-77                      | 7 952                                    | 809              | 901   | 861   | 2 577     |
|                                                                           | 13-14                                    | 18 336           | 36     | 57     | 50             | 77-78                      | 5 009                                    | 712              | 749   | 835   | 2 296     |
|                                                                           | 14-15                                    | 20 182           | 54     | 45     | 61             | 78-79                      | 5 897                                    | 775              | 828   | 842   | 2 445     |
|                                                                           | 15-16                                    | 19 916           | 55     | 55     | 56             | 79-80                      | 4 759                                    | 758              | 652   | 682   | 2 092     |
|                                                                           | 16-17                                    | 26 447           | 71     | 84     | 89             | 80-81                      | 5 766                                    | 690              | 842   | 781   | 2 313     |
|                                                                           | 17-18                                    | 31 358           | 135    | 136    | 129            | 81-82                      | 2 091                                    | 477              | 576   | 609   | 1 662     |
|                                                                           | 18-19                                    | 47 341           | 223    | 221    | 193            | 82-83                      | 3 121                                    | 552              | 519   | 515   | 1 616     |
|                                                                           | 19-20                                    | 51 587           | 236    | 290    | 284            | 83-84                      | 2 479                                    | 489              | 525   | 516   | 1 530     |
|                                                                           | 20-21                                    | 65 020           | 267    | 334    | 311            | 84-85                      | 2 308                                    | 422              | 455   | 494   | 1 371     |
|                                                                           | 21-22                                    | 64 191           | 301    | 357    | 311            | 85-86                      | 1 953                                    | 407              | 436   | 400   | 1 243     |
|                                                                           | 22-23                                    | 78 807           | 426    | 117    | 395            | 86-87                      | 1 453                                    | 319              | 362   | 360   | 1 041     |
|                                                                           | 23-24                                    | 78 030           | 353    | 435    | 410            | 87-88                      | 1 126                                    | 235              | 273   | 298   | 806       |
|                                                                           | 24-25                                    | 85 169           | 416    | 419    | 444            | 88-89                      | 805                                      | 191              | 217   | 216   | 624       |
|                                                                           | 25-26                                    | 93 317           | 428    | 485    | 500            | 89-90                      | 621                                      | 189              | 168   | 186   | 543       |
|                                                                           | 26-27                                    | 86 064           | 429    | 442    | 431            | 90-91                      | 652                                      | 147              | 166   | 171   | 484       |
|                                                                           | 27-28                                    | 81 509           | 408    | 469    | 425            | 91-92                      | 257                                      | 79               | 91    | 123   | 293       |
|                                                                           | 28-29                                    | 98 314           | 538    | 543    | 524            | 92-93                      | 215                                      | 70               | 61    | 96    | 230       |
|                                                                           | 29-30                                    | 72 237           | 381    | 418    | 420            | 93-94                      | 165                                      | 58               | 72    | 61    | 191       |
|                                                                           | 30-31                                    | 114 957          | 616    | 676    | 644            | 94-95                      | 115                                      | 31               | 41    | 43    | 115       |
|                                                                           | 31-32                                    | 56 476           | 329    | 339    | 398            | 95-96                      | 104                                      | 19               | 30    | 41    | 90        |
|                                                                           | 32-33                                    | 80 154           | 481    | 537    | 569            | 96-97                      | 59                                       | 15               | 28    | 17    | 60        |
|                                                                           | 33-34                                    | 67 124           | 476    | 489    | 513            | 97-98                      | 49                                       | 14               | 28    | 16    | 58        |
|                                                                           | 34-35                                    | 65 779           | 482    | 512    | 499            | 98-99                      | 35                                       | 22               | 13    | 21    | 56        |
|                                                                           | 35-36                                    | 90 217           | 738    | 703    | 861            | 99-100                     | 24                                       | 15               | 9     | 12    | 36        |
|                                                                           | 36-37                                    | 67 255           | 490    | 553    | 568            | 100-101                    | 21                                       | 8                | 9     | 1     | 18        |
|                                                                           | 37-38                                    | 58 446           | 531    | 536    | 549            | 101-102                    | 5                                        | 3                | 3     | 7     | 13        |
|                                                                           | 38-39                                    | 79 158           | 716    | 735    | 757            | 102-103                    | 6                                        | 4                | 9     | 1     | 14        |
|                                                                           | 39-40                                    | 59 032           | 557    | 607    | 584            | 103-104                    | 5                                        | 1                | 5     | 3     | 9         |
| 40-41                                                                     | 101 329                                  | 1 005            | 1 096  | 1 023  | 104-105        | 1                          | 4                                        | 3                | 1     | 8     |           |
| 41-42                                                                     | 42 794                                   | 591              | 522    | 591    | 105-106        | 6                          | 2                                        | 0                | 1     | 3     |           |
| 42-43                                                                     | 68 514                                   | 729              | 840    | 822    | 106-107        | 1                          | 0                                        | 2                | 1     | 3     |           |
| 43-44                                                                     | 52 670                                   | 634              | 668    | 714    | 107-108        | 0                          | 1                                        | 0                | 0     | 1     |           |
| 44-45                                                                     | 52 183                                   | 610              | 678    | 689    | 108-109        | 1                          | 1                                        | 1                | 0     | 2     |           |
| 45-46                                                                     | 75 667                                   | 1 080            | 1 105  | 1 172  | 109-110        | 1                          |                                          | 1                | 0     | 1     |           |
| 46-47                                                                     | 48 847                                   | 668              | 783    | 674    | 110-111        | 1                          |                                          | 2                | 1     | 3     |           |
| 47-48                                                                     | 44 624                                   | 695              | 716    | 827    | 111-112        | 1                          |                                          |                  |       |       |           |
| 48-49                                                                     | 53 885                                   | 753              | 830    | 943    |                |                            |                                          |                  |       |       |           |
| 49-50                                                                     | 43 189                                   | 684              | 720    | 785    |                |                            |                                          |                  |       |       |           |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                          |                  |        |        |                |                            |                                          |                  |       |       |           |
| CALENDAR YEAR.                                                            | AGE INTERVALS OF ONE YEAR.               |                  |        |        | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |                                          |                  |       |       |           |
|                                                                           | 0-1                                      | 1-2              | 2-3    | 3-4    |                | 1-2                        | 2-3                                      | 3-4              | 4-5   |       |           |
| 1912                                                                      | 209                                      | 130              | 91     | 71     | 1913           | 203                        | 133                                      | 111              | 85    |       |           |

TABLE 146 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE LIFE TABLE FOR FOREIGN-BORN WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

| AGE INTERVAL.                                                             |        | ESTIMATED POPULATION JULY 1, 1910. | REPORTED DEATHS. |        |        |                | AGE INTERVAL. |                            | ESTIMATED POPULATION JULY 1, 1910. | REPORTED DEATHS. |       |      |           |
|---------------------------------------------------------------------------|--------|------------------------------------|------------------|--------|--------|----------------|---------------|----------------------------|------------------------------------|------------------|-------|------|-----------|
|                                                                           |        |                                    | 1909             | 1910   | 1911   | 1909-1911      |               |                            |                                    | 1909             | 1910  | 1911 | 1909-1911 |
| 1                                                                         | 2      |                                    | 3                | 4      | 5      | 6              | 7             | 8                          |                                    | 9                | 10    | 11   | 12        |
| All ages.                                                                 |        | 2 833 324                          | 43 756           | 46 682 | 46 854 | 137 292        |               |                            |                                    |                  |       |      |           |
| INFANT MORTALITY BY MONTHS.                                               |        |                                    |                  |        |        |                |               |                            |                                    |                  |       |      |           |
| Months.                                                                   |        |                                    |                  |        |        |                | Years.        |                            |                                    |                  |       |      |           |
| 0-1                                                                       | .....  | 9                                  | 7                | 7      | 23     | 50-51          | 60 575        | 703                        | 799                                | 780              | 2 282 |      |           |
| 1-2                                                                       | .....  | 9                                  | 8                | 3      | 20     | 51-52          | 25 068        | 434                        | 533                                | 532              | 1 499 |      |           |
| 2-3                                                                       | .....  | 12                                 | 9                | 5      | 26     | 52-53          | 35 227        | 527                        | 656                                | 653              | 1 836 |      |           |
| 3-4                                                                       | .....  | 5                                  | 14               | 8      | 27     | 53-54          | 27 641        | 490                        | 554                                | 552              | 1 596 |      |           |
| 4-5                                                                       | .....  | 16                                 | 17               | 10     | 43     | 54-55          | 29 361        | 585                        | 582                                | 619              | 1 786 |      |           |
| 5-6                                                                       | .....  | 22                                 | 24               | 9      | 55     |                |               |                            |                                    |                  |       |      |           |
| 6-7                                                                       | .....  | 24                                 | 15               | 14     | 53     | 55-56          | 34 642        | 664                        | 726                                | 734              | 2 124 |      |           |
| 7-8                                                                       | .....  | 21                                 | 24               | 9      | 54     | 56-57          | 27 735        | 612                        | 671                                | 663              | 1 946 |      |           |
| 8-9                                                                       | .....  | 18                                 | 29               | 12     | 59     | 57-58          | 22 318        | 626                        | 624                                | 689              | 1 939 |      |           |
| 9-10                                                                      | .....  | 18                                 | 18               | 14     | 50     | 58-59          | 27 810        | 791                        | 784                                | 747              | 2 322 |      |           |
| 10-11                                                                     | .....  | 21                                 | 14               | 13     | 48     | 59-60          | 22 210        | 711                        | 718                                | 707              | 2 136 |      |           |
| 11-12                                                                     | .....  | 27                                 | 22               | 9      | 58     |                |               |                            |                                    |                  |       |      |           |
| AGE INTERVALS OF ONE YEAR.                                                |        |                                    |                  |        |        |                |               |                            |                                    |                  |       |      |           |
| Years.                                                                    |        |                                    |                  |        |        |                |               |                            |                                    |                  |       |      |           |
| 0-1                                                                       | 1 489  | 202                                | 201              | 113    | 516    | 60-61          | 43 536        | 1 164                      | 1 223                              | 1 170            | 3 557 |      |           |
| 1-2                                                                       | 2 903  | 115                                | 156              | 137    | 408    | 61-62          | 16 855        | 715                        | 721                                | 817              | 2 253 |      |           |
| 2-3                                                                       | 4 268  | 74                                 | 87               | 93     | 254    | 62-63          | 23 098        | 882                        | 929                                | 943              | 2 754 |      |           |
| 3-4                                                                       | 6 559  | 73                                 | 79               | 62     | 214    | 63-64          | 20 734        | 925                        | 921                                | 959              | 2 805 |      |           |
| 4-5                                                                       | 8 846  | 85                                 | 71               | 53     | 209    | 64-65          | 20 577        | 1 002                      | 952                                | 866              | 2 820 |      |           |
| 5-6                                                                       | 11 394 | 53                                 | 68               | 41     | 162    | 65-66          | 30 097        | 1 249                      | 1 340                              | 1 345            | 3 934 |      |           |
| 6-7                                                                       | 13 688 | 57                                 | 60               | 41     | 158    | 66-67          | 16 194        | 883                        | 902                                | 925              | 2 710 |      |           |
| 7-8                                                                       | 15 268 | 66                                 | 62               | 38     | 166    | 67-68          | 16 060        | 923                        | 985                                | 1 036            | 2 944 |      |           |
| 8-9                                                                       | 16 205 | 40                                 | 37               | 40     | 117    | 68-69          | 17 798        | 1 096                      | 1 101                              | 1 086            | 3 283 |      |           |
| 9-10                                                                      | 16 407 | 44                                 | 51               | 25     | 120    | 69-70          | 13 998        | 913                        | 973                                | 1 016            | 2 902 |      |           |
| 10-11                                                                     | 18 803 | 35                                 | 40               | 35     | 110    | 70-71          | 23 227        | 1 363                      | 1 513                              | 1 519            | 4 395 |      |           |
| 11-12                                                                     | 16 859 | 29                                 | 34               | 36     | 99     | 71-72          | 9 421         | 741                        | 821                                | 888              | 2 450 |      |           |
| 12-13                                                                     | 19 715 | 36                                 | 44               | 40     | 120    | 72-73          | 12 683        | 972                        | 1 057                              | 1 059            | 3 088 |      |           |
| 13-14                                                                     | 17 819 | 50                                 | 42               | 37     | 129    | 73-74          | 10 483        | 874                        | 983                                | 986              | 2 843 |      |           |
| 14-15                                                                     | 20 044 | 58                                 | 57               | 63     | 178    | 74-75          | 9 812         | 872                        | 920                                | 959              | 2 751 |      |           |
| 15-16                                                                     | 21 327 | 55                                 | 51               | 57     | 163    | 75-76          | 13 043        | 1 164                      | 1 189                              | 1 217            | 3 570 |      |           |
| 16-17                                                                     | 29 768 | 75                                 | 86               | 81     | 242    | 76-77          | 8 620         | 839                        | 944                                | 884              | 2 687 |      |           |
| 17-18                                                                     | 35 141 | 107                                | 121              | 112    | 340    | 77-78          | 6 084         | 698                        | 782                                | 869              | 2 349 |      |           |
| 18-19                                                                     | 50 861 | 155                                | 178              | 159    | 492    | 78-79          | 6 584         | 786                        | 812                                | 897              | 2 495 |      |           |
| 19-20                                                                     | 52 906 | 171                                | 186              | 198    | 555    | 79-80          | 4 905         | 647                        | 758                                | 642              | 2 047 |      |           |
| 20-21                                                                     | 68 954 | 198                                | 223              | 203    | 624    | 80-81          | 7 089         | 844                        | 944                                | 985              | 2 773 |      |           |
| 21-22                                                                     | 55 261 | 215                                | 236              | 248    | 699    | 81-82          | 3 065         | 498                        | 534                                | 610              | 1 642 |      |           |
| 22-23                                                                     | 71 815 | 298                                | 296              | 314    | 908    | 82-83          | 3 392         | 494                        | 645                                | 613              | 1 752 |      |           |
| 23-24                                                                     | 70 152 | 307                                | 318              | 310    | 935    | 83-84          | 2 715         | 486                        | 486                                | 547              | 1 519 |      |           |
| 24-25                                                                     | 72 902 | 321                                | 352              | 375    | 1 048  | 84-85          | 2 609         | 469                        | 539                                | 494              | 1 502 |      |           |
| 25-26                                                                     | 77 716 | 302                                | 365              | 363    | 1 030  | 85-86          | 2 331         | 443                        | 514                                | 481              | 1 438 |      |           |
| 26-27                                                                     | 70 480 | 351                                | 352              | 361    | 1 064  | 86-87          | 1 580         | 363                        | 349                                | 401              | 1 113 |      |           |
| 27-28                                                                     | 64 477 | 312                                | 361              | 384    | 1 057  | 87-88          | 1 236         | 273                        | 311                                | 318              | 902   |      |           |
| 28-29                                                                     | 79 535 | 418                                | 447              | 407    | 1 272  | 88-89          | 981           | 230                        | 249                                | 257              | 736   |      |           |
| 29-30                                                                     | 58 665 | 379                                | 350              | 351    | 1 080  | 89-90          | 747           | 196                        | 205                                | 217              | 618   |      |           |
| 30-31                                                                     | 88 520 | 447                                | 471              | 394    | 1 312  | 90-91          | 868           | 218                        | 245                                | 206              | 669   |      |           |
| 31-32                                                                     | 41 819 | 289                                | 305              | 347    | 941    | 91-92          | 325           | 95                         | 122                                | 122              | 339   |      |           |
| 32-33                                                                     | 65 922 | 393                                | 431              | 437    | 1 264  | 92-93          | 296           | 82                         | 92                                 | 103              | 277   |      |           |
| 33-34                                                                     | 54 650 | 405                                | 409              | 363    | 1 177  | 93-94          | 211           | 66                         | 78                                 | 79               | 223   |      |           |
| 34-35                                                                     | 56 012 | 399                                | 413              | 428    | 1 240  | 94-95          | 140           | 56                         | 44                                 | 67               | 167   |      |           |
| 35-36                                                                     | 71 139 | 479                                | 476              | 503    | 1 458  | 95-96          | 158           | 46                         | 49                                 | 54               | 149   |      |           |
| 36-37                                                                     | 57 328 | 433                                | 450              | 436    | 1 319  | 96-97          | 89            | 43                         | 38                                 | 39               | 120   |      |           |
| 37-38                                                                     | 50 050 | 418                                | 454              | 409    | 1 281  | 97-98          | 50            | 33                         | 24                                 | 19               | 76    |      |           |
| 38-39                                                                     | 69 000 | 564                                | 561              | 538    | 1 663  | 98-99          | 58            | 11                         | 32                                 | 14               | 57    |      |           |
| 39-40                                                                     | 51 051 | 441                                | 438              | 430    | 1 309  | 99-100         | 27            | 9                          | 5                                  | 3                | 17    |      |           |
| 40-41                                                                     | 80 808 | 572                                | 639              | 625    | 1 836  | 100-101        | 39            | 12                         | 13                                 | 12               | 37    |      |           |
| 41-42                                                                     | 35 346 | 362                                | 355              | 418    | 1 135  | 101-102        | 8             | 3                          | 11                                 | 5                | 19    |      |           |
| 42-43                                                                     | 57 174 | 506                                | 547              | 523    | 1 576  | 102-103        | 8             | 4                          | 6                                  | 2                | 12    |      |           |
| 43-44                                                                     | 45 439 | 448                                | 469              | 489    | 1 406  | 103-104        | 5             | 1                          | 4                                  | 5                | 10    |      |           |
| 44-45                                                                     | 45 475 | 438                                | 467              | 496    | 1 401  | 104-105        | 5             | 4                          | 3                                  | 5                | 12    |      |           |
| 45-46                                                                     | 60 282 | 609                                | 636              | 692    | 1 937  | 105-106        | 5             | 2                          | 3                                  | 1                | 6     |      |           |
| 46-47                                                                     | 42 616 | 478                                | 490              | 519    | 1 487  | 106-107        | 3             | 3                          | 2                                  | 1                | 6     |      |           |
| 47-48                                                                     | 38 295 | 463                                | 520              | 492    | 1 475  | 107-108        | 3             | 2                          | 1                                  | 3                | 6     |      |           |
| 48-49                                                                     | 47 735 | 554                                | 647              | 615    | 1 816  | 108-109        | 0             | 2                          | 1                                  | 1                | 4     |      |           |
| 49-50                                                                     | 36 951 | 515                                | 466              | 499    | 1 480  | 109-110        | 0             | 0                          | 0                                  | 0                | 0     |      |           |
|                                                                           |        |                                    |                  |        |        | 110-111        | 1             | 1                          | 0                                  | 0                | 1     |      |           |
|                                                                           |        |                                    |                  |        |        | 111-112        | 1             | 0                          | 1                                  | 0                | 1     |      |           |
|                                                                           |        |                                    |                  |        |        | 112-113        | 0             | 2                          | 1                                  | 0                | 3     |      |           |
|                                                                           |        |                                    |                  |        |        | 113-114        | 0             |                            |                                    | 0                | 0     |      |           |
|                                                                           |        |                                    |                  |        |        | 114-115        | 0             |                            |                                    | 0                | 0     |      |           |
|                                                                           |        |                                    |                  |        |        | 115-116        | 1             |                            |                                    | 0                | 0     |      |           |
|                                                                           |        |                                    |                  |        |        | 116-117        |               |                            |                                    | 0                | 0     |      |           |
|                                                                           |        |                                    |                  |        |        | 117-118        |               |                            |                                    | 1                | 1     |      |           |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |        |                                    |                  |        |        |                |               |                            |                                    |                  |       |      |           |
| CALENDAR YEAR.                                                            |        | AGE INTERVALS OF ONE YEAR.         |                  |        |        | CALENDAR YEAR. |               | AGE INTERVALS OF ONE YEAR. |                                    |                  |       |      |           |
|                                                                           |        | 0-1                                | 1-2              | 2-3    | 3-4    |                |               | 1-2                        | 2-3                                | 3-4              | 4-5   |      |           |
| 1912                                                                      |        | 136                                | 116              | 107    | 64     | 1913           |               | 170                        | 122                                | 99               | 68    |      |           |

TABLE 147 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR WHITE MALES IN CITIES OF THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

| AGE INTERVAL.                                                             |           | ESTIMATED POPULATION JULY 1, 1910. | REPORTED DEATHS. |         |         |                | AGE INTERVAL. |                            | ESTIMATED POPULATION JULY 1, 1910. | REPORTED DEATHS. |       |       |           |
|---------------------------------------------------------------------------|-----------|------------------------------------|------------------|---------|---------|----------------|---------------|----------------------------|------------------------------------|------------------|-------|-------|-----------|
|                                                                           |           |                                    | 1909             | 1910    | 1911    | 1909-1911      |               |                            |                                    | 1909             | 1910  | 1911  | 1909-1911 |
| 1                                                                         | 2         |                                    | 3                | 4       | 5       | 6              | 7             | 8                          |                                    | 9                | 10    | 11    | 12        |
| All ages.                                                                 | 7 211 022 |                                    | 114 784          | 123 533 | 120 984 | 359 301        | Years.        | 100 631                    |                                    | 1 630            | 1 877 | 1 823 | 5 330     |
| INFANT MORTALITY BY MONTHS.                                               |           |                                    |                  |         |         |                |               |                            |                                    |                  |       |       |           |
| Months.                                                                   |           |                                    | 9 313            | 9 872   | 9 869   | 29 054         | 50-51         | 50 500                     |                                    | 1 054            | 1 167 | 1 245 | 3 466     |
| 0-1                                                                       |           |                                    | 2 569            | 2 829   | 2 601   | 7 999          | 51-52         | 66 606                     |                                    | 1 355            | 1 458 | 1 529 | 4 342     |
| 1-2                                                                       |           |                                    | 1 963            | 2 287   | 2 031   | 6 281          | 52-53         | 52 857                     |                                    | 1 263            | 1 267 | 1 372 | 3 902     |
| 2-3                                                                       |           |                                    | 1 858            | 1 991   | 1 717   | 5 566          | 53-54         | 52 818                     |                                    | 1 253            | 1 375 | 1 414 | 4 042     |
| 3-4                                                                       |           |                                    | 1 583            | 1 780   | 1 494   | 4 857          | 54-55         |                            |                                    |                  |       |       |           |
| 4-5                                                                       |           |                                    | 1 444            | 1 554   | 1 350   | 4 348          | 55-56         | 54 145                     |                                    | 1 356            | 1 524 | 1 524 | 4 404     |
| 5-6                                                                       |           |                                    |                  |         |         |                | 56-57         | 45 904                     |                                    | 1 254            | 1 377 | 1 400 | 4 031     |
| 6-7                                                                       |           |                                    | 1 297            | 1 480   | 1 257   | 4 034          | 57-58         | 37 155                     |                                    | 1 109            | 1 302 | 1 351 | 3 762     |
| 7-8                                                                       |           |                                    | 1 159            | 1 309   | 1 121   | 3 589          | 58-59         | 40 493                     |                                    | 1 228            | 1 415 | 1 410 | 4 053     |
| 8-9                                                                       |           |                                    | 1 181            | 1 232   | 1 039   | 3 452          | 59-60         | 34 517                     |                                    | 1 240            | 1 264 | 1 324 | 3 828     |
| 9-10                                                                      |           |                                    | 1 090            | 1 113   | 973     | 3 176          | 60-61         | 50 725                     |                                    | 1 761            | 1 823 | 1 864 | 5 448     |
| 10-11                                                                     |           |                                    | 967              | 900     | 839     | 2 706          | 61-62         | 25 181                     |                                    | 1 068            | 1 197 | 1 322 | 3 587     |
| 11-12                                                                     |           |                                    | 938              | 943     | 782     | 2 663          | 62-63         | 31 494                     |                                    | 1 335            | 1 420 | 1 477 | 4 232     |
| AGE INTERVALS OF ONE YEAR.                                                |           |                                    |                  |         |         |                |               |                            |                                    |                  |       |       |           |
| Years.                                                                    |           |                                    | 25 362           | 27 290  | 25 073  | 77 725         | 63-64         | 27 756                     |                                    | 1 339            | 1 467 | 1 422 | 4 228     |
| 0-1                                                                       | 160 058   |                                    | 5 492            | 5 663   | 4 999   | 16 154         | 64-65         | 26 386                     |                                    | 1 271            | 1 444 | 1 416 | 4 131     |
| 1-2                                                                       | 140 084   |                                    | 2 343            | 2 451   | 2 073   | 6 867          | 65-66         | 33 857                     |                                    | 1 651            | 1 725 | 1 832 | 5 208     |
| 2-3                                                                       | 152 864   |                                    | 1 363            | 1 432   | 1 267   | 4 062          | 66-67         | 20 674                     |                                    | 1 194            | 1 290 | 1 321 | 3 805     |
| 3-4                                                                       | 147 517   |                                    | 965              | 976     | 921     | 2 862          | 67-68         | 20 036                     |                                    | 1 238            | 1 371 | 1 415 | 4 024     |
| 4-5                                                                       | 139 554   |                                    |                  |         |         |                | 68-69         | 20 495                     |                                    | 1 309            | 1 383 | 1 471 | 4 163     |
| 5-6                                                                       | 134 766   |                                    | 751              | 752     | 691     | 2 194          | 69-70         | 17 350                     |                                    | 1 184            | 1 324 | 1 319 | 3 827     |
| 6-7                                                                       | 133 451   |                                    | 595              | 632     | 596     | 1 823          | 70-71         | 22 529                     |                                    | 1 466            | 1 658 | 1 580 | 4 713     |
| 7-8                                                                       | 131 157   |                                    | 489              | 550     | 480     | 1 519          | 71-72         | 11 645                     |                                    | 1 011            | 1 077 | 1 237 | 3 325     |
| 8-9                                                                       | 125 608   |                                    | 387              | 432     | 417     | 1 236          | 72-73         | 14 332                     |                                    | 1 194            | 1 232 | 1 281 | 3 710     |
| 9-10                                                                      | 123 525   |                                    | 320              | 382     | 368     | 1 070          | 73-74         | 11 724                     |                                    | 1 084            | 1 208 | 1 215 | 3 507     |
| 10-11                                                                     | 126 106   |                                    | 336              | 315     | 327     | 978            | 74-75         | 10 581                     |                                    | 1 046            | 1 140 | 1 136 | 3 322     |
| 11-12                                                                     | 117 552   |                                    | 314              | 322     | 306     | 942            | 75-76         | 11 585                     |                                    | 1 148            | 1 221 | 1 259 | 3 628     |
| 12-13                                                                     | 129 142   |                                    | 291              | 301     | 285     | 877            | 76-77         | 8 630                      |                                    | 985              | 1 071 | 958   | 3 011     |
| 13-14                                                                     | 123 272   |                                    | 273              | 317     | 305     | 895            | 77-78         | 6 395                      |                                    | 820              | 899   | 915   | 2 631     |
| 14-15                                                                     | 124 415   |                                    | 304              | 312     | 316     | 932            | 78-79         | 6 121                      |                                    | 838              | 911   | 933   | 2 702     |
| 15-16                                                                     | 116 535   |                                    | 318              | 337     | 299     | 954            | 79-80         | 5 113                      |                                    | 800              | 749   | 752   | 2 301     |
| 16-17                                                                     | 130 069   |                                    | 375              | 392     | 396     | 1 163          | 80-81         | 5 797                      |                                    | 703              | 895   | 793   | 2 391     |
| 17-18                                                                     | 130 118   |                                    | 463              | 579     | 511     | 1 553          | 81-82         | 3 228                      |                                    | 554              | 635   | 681   | 1 870     |
| 18-19                                                                     | 140 816   |                                    | 558              | 646     | 597     | 1 831          | 82-83         | 3 277                      |                                    | 567              | 608   | 606   | 1 781     |
| 19-20                                                                     | 138 294   |                                    | 620              | 700     | 683     | 2 003          | 83-84         | 2 632                      |                                    | 516              | 516   | 550   | 1 612     |
| 20-21                                                                     | 142 671   |                                    | 620              | 762     | 721     | 2 103          | 84-85         | 2 387                      |                                    | 416              | 518   | 515   | 1 449     |
| 21-22                                                                     | 147 653   |                                    | 752              | 796     | 730     | 2 278          | 85-86         | 1 995                      |                                    | 446              | 420   | 452   | 1 318     |
| 22-23                                                                     | 153 604   |                                    | 781              | 862     | 847     | 2 490          | 86-87         | 1 518                      |                                    | 325              | 381   | 368   | 1 074     |
| 23-24                                                                     | 150 416   |                                    | 763              | 831     | 851     | 2 445          | 87-88         | 1 126                      |                                    | 253              | 266   | 311   | 830       |
| 24-25                                                                     | 154 982   |                                    | 837              | 863     | 871     | 2 571          | 88-89         | 826                        |                                    | 224              | 230   | 232   | 686       |
| 25-26                                                                     | 159 362   |                                    | 873              | 960     | 926     | 2 759          | 89-90         | 709                        |                                    | 211              | 182   | 181   | 574       |
| 26-27                                                                     | 149 920   |                                    | 821              | 896     | 859     | 2 606          | 90-91         | 658                        |                                    | 137              | 166   | 166   | 469       |
| 27-28                                                                     | 140 836   |                                    | 842              | 942     | 908     | 2 692          | 91-92         | 311                        |                                    | 94               | 112   | 135   | 341       |
| 28-29                                                                     | 158 206   |                                    | 1 000            | 1 052   | 1 021   | 3 073          | 92-93         | 248                        |                                    | 82               | 84    | 106   | 272       |
| 29-30                                                                     | 126 462   |                                    | 880              | 921     | 862     | 2 663          | 93-94         | 164                        |                                    | 64               | 56    | 65    | 185       |
| 30-31                                                                     | 173 293   |                                    | 1 090            | 1 190   | 1 101   | 3 381          | 94-95         | 111                        |                                    | 41               | 37    | 34    | 112       |
| 31-32                                                                     | 102 679   |                                    | 802              | 837     | 922     | 2 561          | 95-96         | 116                        |                                    | 25               | 37    | 35    | 97        |
| 32-33                                                                     | 132 161   |                                    | 1 069            | 1 130   | 1 119   | 3 318          | 96-97         | 51                         |                                    | 23               | 25    | 19    | 67        |
| 33-34                                                                     | 115 058   |                                    | 1 017            | 1 057   | 1 052   | 3 126          | 97-98         | 41                         |                                    | 17               | 18    | 12    | 47        |
| 34-35                                                                     | 117 275   |                                    | 1 016            | 1 123   | 1 133   | 3 272          | 98-99         | 31                         |                                    | 10               | 10    | 13    | 33        |
| 35-36                                                                     | 145 231   |                                    | 1 285            | 1 432   | 1 459   | 4 176          | 99-100        | 17                         |                                    | 10               | 9     | 9     | 28        |
| 36-37                                                                     | 112 757   |                                    | 1 130            | 1 129   | 1 183   | 3 442          | 100-101       | 14                         |                                    | 6                | 9     | 2     | 17        |
| 37-38                                                                     | 101 683   |                                    | 1 115            | 1 152   | 1 173   | 3 440          | 101-102       | 4                          |                                    | 2                | 3     | 6     | 11        |
| 38-39                                                                     | 126 323   |                                    | 1 321            | 1 380   | 1 487   | 4 188          | 102-103       | 4                          |                                    | 3                | 5     | 2     | 10        |
| 39-40                                                                     | 99 871    |                                    | 1 186            | 1 217   | 1 208   | 3 611          | 103-104       | 3                          |                                    | 0                | 4     | 0     | 4         |
| 40-41                                                                     | 147 456   |                                    | 1 569            | 1 754   | 1 650   | 4 973          | 104-105       | 1                          |                                    | 2                | 2     | 0     | 4         |
| 41-42                                                                     | 74 518    |                                    | 973              | 1 054   | 1 165   | 3 192          | 105-106       | 3                          |                                    | 0                | 0     | 1     | 1         |
| 42-43                                                                     | 106 959   |                                    | 1 287            | 1 439   | 1 393   | 4 119          | 106-107       | 2                          |                                    | 0                | 2     | 1     | 3         |
| 43-44                                                                     | 83 840    |                                    | 1 162            | 1 199   | 1 274   | 3 635          | 107-108       | 0                          |                                    | 0                | 0     | 0     | 1         |
| 44-45                                                                     | 79 121    |                                    | 1 101            | 1 160   | 1 225   | 3 486          | 108-109       | 1                          |                                    | 1                | 1     | 0     | 2         |
| 45-46                                                                     | 107 101   |                                    | 1 574            | 1 600   | 1 696   | 4 870          | 109-110       | 1                          |                                    |                  | 1     | 0     | 1         |
| 46-47                                                                     | 71 948    |                                    | 1 080            | 1 191   | 1 143   | 3 414          | 110-111       | 1                          |                                    |                  |       | 1     | 1         |
| 47-48                                                                     | 69 115    |                                    | 1 089            | 1 267   | 1 323   | 3 679          |               |                            |                                    |                  |       |       |           |
| 48-49                                                                     | 81 536    |                                    | 1 348            | 1 397   | 1 474   | 4 219          |               |                            |                                    |                  |       |       |           |
| 49-50                                                                     | 70 030    |                                    | 1 232            | 1 291   | 1 363   | 3 886          |               |                            |                                    |                  |       |       |           |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |           |                                    |                  |         |         |                |               |                            |                                    |                  |       |       |           |
| CALENDAR YEAR.                                                            |           | AGE INTERVALS OF ONE YEAR.         |                  |         |         | CALENDAR YEAR. |               | AGE INTERVALS OF ONE YEAR. |                                    |                  |       |       |           |
|                                                                           |           | 0-1                                | 1-2              | 2-3     | 3-4     |                |               | 1-2                        | 2-3                                | 3-4              | 4-5   |       |           |
| 1912                                                                      |           | 24 618                             | 5 004            | 1 986   | 1 185   | 1913           |               | 5 231                      | 2 234                              | 1 368            | 994   |       |           |

TABLE 148 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR WHITE FEMALES IN CITIES OF THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

| AGE<br>INTERVAL.                                                          | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |         |         |                | AGE<br>INTERVAL.           | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |       |       |           |
|---------------------------------------------------------------------------|------------------------------------------|------------------|---------|---------|----------------|----------------------------|------------------------------------------|------------------|-------|-------|-----------|
|                                                                           |                                          | 1909             | 1910    | 1911    | 1909-1911      |                            |                                          | 1909             | 1910  | 1911  | 1909-1911 |
| 1                                                                         | 2                                        | 3                | 4       | 5       | 6              | 7                          | 8                                        | 9                | 10    | 11    | 12        |
| All ages.                                                                 | 7 246 306                                | 101 088          | 107 757 | 104 586 | 313 431        |                            |                                          |                  |       |       |           |
| INFANT MORTALITY BY MONTHS.                                               |                                          |                  |         |         |                |                            |                                          |                  |       |       |           |
| Months.                                                                   |                                          |                  |         |         |                | Years.                     |                                          |                  |       |       |           |
| 0-1                                                                       |                                          | 6 877            | 7 454   | 7 309   | 21 640         | 50-51                      | 102 195                                  | 1 150            | 1 363 | 1 308 | 3 821     |
| 1-2                                                                       |                                          | 1 967            | 2 147   | 1 937   | 6 051          | 51-52                      | 47 110                                   | 779              | 913   | 960   | 2 652     |
| 2-3                                                                       |                                          | 1 650            | 1 899   | 1 605   | 5 154          | 52-53                      | 63 058                                   | 981              | 1 137 | 1 128 | 3 246     |
| 3-4                                                                       |                                          | 1 458            | 1 652   | 1 376   | 4 486          | 53-54                      | 50 523                                   | 892              | 1 010 | 976   | 2 878     |
| 4-5                                                                       |                                          | 1 325            | 1 433   | 1 255   | 4 013          | 54-55                      | 52 503                                   | 996              | 1 011 | 1 062 | 3 069     |
| 5-6                                                                       |                                          | 1 126            | 1 345   | 1 013   | 3 484          | 55-56                      | 56 185                                   | 1 043            | 1 121 | 1 227 | 3 391     |
| 6-7                                                                       |                                          | 1 080            | 1 248   | 1 132   | 3 460          | 56-57                      | 45 682                                   | 936              | 1 078 | 1 063 | 3 067     |
| 7-8                                                                       |                                          | 1 034            | 1 030   | 908     | 2 972          | 57-58                      | 37 426                                   | 973              | 1 016 | 1 100 | 3 089     |
| 8-9                                                                       |                                          | 988              | 1 031   | 883     | 2 902          | 58-59                      | 43 386                                   | 1 156            | 1 171 | 1 225 | 3 552     |
| 9-10                                                                      |                                          | 970              | 904     | 877     | 2 751          | 59-60                      | 35 594                                   | 1 065            | 1 067 | 1 096 | 3 228     |
| 10-11                                                                     |                                          | 821              | 844     | 775     | 2 440          | 60-61                      | 60 822                                   | 1 539            | 1 645 | 1 623 | 4 807     |
| 11-12                                                                     |                                          | 815              | 855     | 680     | 2 350          | 61-62                      | 26 027                                   | 1 017            | 996   | 1 179 | 3 192     |
| AGE INTERVALS OF ONE YEAR.                                                |                                          |                  |         |         |                |                            |                                          |                  |       |       |           |
| Years.                                                                    |                                          |                  |         |         |                | 62-63                      | 33 688                                   | 1 210            | 1 272 | 1 315 | 3 797     |
| 0-1                                                                       | 156 310                                  | 20 111           | 21 842  | 19 750  | 61 703         | 63-64                      | 30 339                                   | 1 214            | 1 228 | 1 267 | 3 709     |
| 1-2                                                                       | 136 815                                  | 5 090            | 4 973   | 4 526   | 14 589         | 64-65                      | 29 103                                   | 1 263            | 1 267 | 1 224 | 3 754     |
| 2-3                                                                       | 150 550                                  | 1 989            | 2 126   | 1 857   | 5 972          | 65-66                      | 39 560                                   | 1 519            | 1 740 | 1 672 | 4 931     |
| 3-4                                                                       | 145 812                                  | 1 215            | 1 379   | 1 208   | 3 832          | 66-67                      | 23 185                                   | 1 155            | 1 246 | 1 233 | 3 634     |
| 4-5                                                                       | 137 387                                  | 907              | 908     | 881     | 2 696          | 67-68                      | 22 677                                   | 1 165            | 1 289 | 1 378 | 3 832     |
| 5-6                                                                       | 133 685                                  | 714              | 749     | 647     | 2 110          | 68-69                      | 24 335                                   | 1 398            | 1 383 | 1 394 | 4 175     |
| 6-7                                                                       | 133 215                                  | 582              | 613     | 527     | 1 722          | 69-70                      | 20 000                                   | 1 182            | 1 313 | 1 276 | 3 771     |
| 7-8                                                                       | 129 473                                  | 430              | 489     | 454     | 1 373          | 70-71                      | 29 745                                   | 1 562            | 1 786 | 1 819 | 5 167     |
| 8-9                                                                       | 126 632                                  | 364              | 378     | 369     | 1 111          | 71-72                      | 13 551                                   | 1 032            | 1 036 | 1 251 | 3 319     |
| 9-10                                                                      | 121 657                                  | 308              | 318     | 255     | 881            | 72-73                      | 17 179                                   | 1 301            | 1 361 | 1 331 | 3 993     |
| 10-11                                                                     | 126 608                                  | 290              | 299     | 240     | 838            | 73-74                      | 14 478                                   | 1 130            | 1 299 | 1 228 | 3 657     |
| 11-12                                                                     | 118 204                                  | 237              | 221     | 248     | 706            | 74-75                      | 13 347                                   | 1 090            | 1 231 | 1 185 | 3 506     |
| 12-13                                                                     | 129 804                                  | 245              | 311     | 255     | 811            | 75-76                      | 16 129                                   | 1 349            | 1 466 | 1 442 | 4 257     |
| 13-14                                                                     | 123 868                                  | 327              | 290     | 300     | 917            | 76-77                      | 11 446                                   | 1 131            | 1 194 | 1 134 | 3 459     |
| 14-15                                                                     | 125 544                                  | 277              | 365     | 311     | 953            | 77-78                      | 8 523                                    | 924              | 1 060 | 1 077 | 3 061     |
| 15-16                                                                     | 121 709                                  | 307              | 350     | 358     | 1 015          | 78-79                      | 8 735                                    | 978              | 1 008 | 1 084 | 3 070     |
| 16-17                                                                     | 138 914                                  | 409              | 412     | 360     | 1 181          | 79-80                      | 6 946                                    | 895              | 965   | 910   | 2 770     |
| 17-18                                                                     | 136 771                                  | 443              | 468     | 421     | 1 332          | 80-81                      | 8 694                                    | 1 011            | 1 116 | 1 196 | 3 323     |
| 18-19                                                                     | 155 945                                  | 565              | 545     | 528     | 1 638          | 81-82                      | 4 509                                    | 647              | 738   | 798   | 2 183     |
| 19-20                                                                     | 148 411                                  | 548              | 579     | 617     | 1 774          | 82-83                      | 4 808                                    | 738              | 831   | 837   | 2 406     |
| 20-21                                                                     | 164 666                                  | 616              | 633     | 644     | 1 893          | 83-84                      | 3 864                                    | 611              | 718   | 750   | 2 077     |
| 21-22                                                                     | 146 115                                  | 632              | 631     | 661     | 1 924          | 84-85                      | 3 482                                    | 600              | 663   | 631   | 1 894     |
| 22-23                                                                     | 161 641                                  | 735              | 778     | 771     | 2 284          | 85-86                      | 3 176                                    | 590              | 642   | 611   | 1 843     |
| 23-24                                                                     | 157 706                                  | 751              | 785     | 756     | 2 292          | 86-87                      | 2 258                                    | 475              | 504   | 501   | 1 480     |
| 24-25                                                                     | 157 202                                  | 780              | 813     | 820     | 2 413          | 87-88                      | 1 838                                    | 397              | 440   | 431   | 1 268     |
| 25-26                                                                     | 160 954                                  | 778              | 808     | 815     | 2 401          | 88-89                      | 1 387                                    | 316              | 342   | 354   | 1 012     |
| 26-27                                                                     | 146 055                                  | 830              | 804     | 812     | 2 446          | 89-90                      | 1 148                                    | 282              | 320   | 320   | 922       |
| 27-28                                                                     | 132 872                                  | 753              | 801     | 833     | 2 397          | 90-91                      | 1 105                                    | 270              | 294   | 278   | 842       |
| 28-29                                                                     | 151 786                                  | 824              | 838     | 823     | 2 485          | 91-92                      | 520                                      | 171              | 170   | 157   | 498       |
| 29-30                                                                     | 117 880                                  | 777              | 823     | 729     | 2 329          | 92-93                      | 451                                      | 154              | 151   | 153   | 458       |
| 30-31                                                                     | 165 105                                  | 906              | 932     | 861     | 2 699          | 93-94                      | 318                                      | 99               | 99    | 126   | 324       |
| 31-32                                                                     | 95 358                                   | 662              | 696     | 729     | 2 087          | 94-95                      | 230                                      | 75               | 79    | 80    | 247       |
| 32-33                                                                     | 126 892                                  | 890              | 889     | 833     | 2 612          | 95-96                      | 224                                      | 68               | 64    | 83    | 215       |
| 33-34                                                                     | 108 538                                  | 820              | 862     | 767     | 2 449          | 96-97                      | 110                                      | 66               | 40    | 46    | 152       |
| 34-35                                                                     | 113 744                                  | 787              | 866     | 886     | 2 539          | 97-98                      | 64                                       | 49               | 33    | 24    | 106       |
| 35-36                                                                     | 137 639                                  | 927              | 986     | 1 067   | 2 980          | 98-99                      | 58                                       | 15               | 31    | 13    | 59        |
| 36-37                                                                     | 109 523                                  | 865              | 870     | 888     | 2 623          | 99-100                     | 37                                       | 11               | 9     | 6     | 26        |
| 37-38                                                                     | 97 932                                   | 851              | 873     | 859     | 2 583          | 100-101                    | 39                                       | 12               | 15    | 15    | 42        |
| 38-39                                                                     | 124 795                                  | 1 022            | 1 051   | 1 056   | 3 129          | 101-102                    | 8                                        | 3                | 15    | 3     | 21        |
| 39-40                                                                     | 96 334                                   | 915              | 858     | 840     | 2 613          | 102-103                    | 7                                        | 4                | 9     | 4     | 17        |
| 40-41                                                                     | 141 128                                  | 1 023            | 1 166   | 1 070   | 3 259          | 103-104                    | 3                                        | 1                | 4     | 2     | 7         |
| 41-42                                                                     | 69 099                                   | 675              | 757     | 769     | 2 201          | 104-105                    | 2                                        | 1                | 2     | 1     | 4         |
| 42-43                                                                     | 101 266                                  | 935              | 982     | 989     | 2 906          | 105-106                    | 1                                        | 2                | 2     | 0     | 3         |
| 43-44                                                                     | 80 242                                   | 799              | 874     | 878     | 2 551          | 106-107                    | 1                                        | 0                | 0     | 1     | 5         |
| 44-45                                                                     | 76 175                                   | 798              | 863     | 884     | 2 545          | 107-108                    | 0                                        | 0                | 0     | 2     | 2         |
| 45-46                                                                     | 100 322                                  | 975              | 1 056   | 1 099   | 3 130          | 108-109                    | 0                                        | 2                | 2     | 0     | 4         |
| 46-47                                                                     | 70 115                                   | 849              | 863     | 917     | 2 629          | 109-110                    | 0                                        | 0                | 0     | 0     | 0         |
| 47-48                                                                     | 66 819                                   | 841              | 914     | 882     | 2 637          | 110-111                    | 1                                        | 1                | 0     | 0     | 1         |
| 48-49                                                                     | 81 699                                   | 999              | 1 068   | 1 041   | 3 108          | 111-112                    | 1                                        | 0                | 0     | 0     | 0         |
| 49-50                                                                     | 67 505                                   | 965              | 907     | 902     | 2 774          | 112-113                    | 0                                        | 2                | 1     | 0     | 3         |
|                                                                           |                                          |                  |         |         |                | 113-114                    | 0                                        |                  |       | 0     | 0         |
|                                                                           |                                          |                  |         |         |                | 114-115                    | 0                                        |                  |       | 0     | 0         |
|                                                                           |                                          |                  |         |         |                | 115-116                    | 1                                        |                  |       | 0     | 0         |
|                                                                           |                                          |                  |         |         |                | 116-117                    |                                          |                  |       | 0     | 0         |
|                                                                           |                                          |                  |         |         |                | 117-118                    |                                          |                  |       | 1     | 1         |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                          |                  |         |         |                |                            |                                          |                  |       |       |           |
| CALENDAR YEAR.                                                            | AGE INTERVALS OF ONE YEAR.               |                  |         |         | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |                                          |                  |       |       |           |
|                                                                           | 0-1                                      | 1-2              | 2-3     | 3-4     |                | 1-2                        | 2-3                                      | 3-4              | 4-5   |       |           |
| 1912                                                                      | 19 479                                   | 4 300            | 1 836   | 1 056   | 1913           | 4 600                      | 1 979                                    | 1 274            | 912   |       |           |

## UNITED STATES LIFE TABLES.

TABLE 149 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR WHITE MALES IN RURAL PART OF ORIGINAL REGISTRATION STATES:  
1910.

Unknown ages distributed.

| AGE INTERVAL.                                                             |  | ESTIMATED POPULATION JULY 1, 1910. | REPORTED DEATHS. |        |        |                | AGE INTERVAL. |                            | ESTIMATED POPULATION JULY 1, 1910. | REPORTED DEATHS. |       |       |           |
|---------------------------------------------------------------------------|--|------------------------------------|------------------|--------|--------|----------------|---------------|----------------------------|------------------------------------|------------------|-------|-------|-----------|
|                                                                           |  |                                    | 1909             | 1910   | 1911   | 1909-1911      |               |                            |                                    | 1909             | 1910  | 1911  | 1909-1911 |
| 1                                                                         |  | 2                                  | 3                | 4      | 5      | 6              | 7             |                            | 8                                  | 9                | 10    | 11    | 12        |
| All ages.                                                                 |  | 4 721 941                          | 67 589           | 71 258 | 69 513 | 208 360        | Years.        |                            |                                    |                  |       |       |           |
| INFANT MORTALITY BY MONTHS.                                               |  |                                    |                  |        |        |                |               |                            |                                    |                  |       |       |           |
| Months.                                                                   |  |                                    |                  |        |        |                |               |                            |                                    |                  |       |       |           |
| 0-1                                                                       |  |                                    | 4 900            | 4 947  | 4 926  | 14 773         | 50-51         |                            | 63 621                             | 657              | 659   | 698   | 2 014     |
| 1-2                                                                       |  |                                    | 1 081            | 1 116  | 1 028  | 3 225          | 51-52         |                            | 43 799                             | 494              | 530   | 557   | 1 581     |
| 2-3                                                                       |  |                                    | 932              | 950    | 765    | 2 647          | 52-53         |                            | 54 371                             | 558              | 703   | 641   | 1 905     |
| 3-4                                                                       |  |                                    | 801              | 786    | 704    | 2 291          | 53-54         |                            | 45 957                             | 557              | 623   | 687   | 1 867     |
| 4-5                                                                       |  |                                    | 690              | 680    | 579    | 1 949          | 54-55         |                            | 46 144                             | 642              | 669   | 616   | 1 927     |
| 5-6                                                                       |  |                                    | 560              | 606    | 471    | 1 637          | 55-56         |                            | 45 511                             | 688              | 728   | 749   | 2 165     |
| 6-7                                                                       |  |                                    | 507              | 571    | 442    | 1 523          | 56-57         |                            | 42 945                             | 617              | 712   | 780   | 2 109     |
| 7-8                                                                       |  |                                    | 450              | 482    | 355    | 1 287          | 57-58         |                            | 37 544                             | 611              | 736   | 763   | 2 140     |
| 8-9                                                                       |  |                                    | 435              | 410    | 321    | 1 169          | 58-59         |                            | 38 703                             | 761              | 764   | 771   | 2 296     |
| 9-10                                                                      |  |                                    | 356              | 392    | 333    | 1 081          | 59-60         |                            | 35 896                             | 749              | 741   | 749   | 2 239     |
| 10-11                                                                     |  |                                    | 326              | 317    | 281    | 924            | 60-61         |                            | 42 037                             | 879              | 943   | 958   | 2 780     |
| 11-12                                                                     |  |                                    | 287              | 348    | 262    | 897            | 61-62         |                            | 29 096                             | 779              | 799   | 900   | 2 478     |
| AGE INTERVALS OF ONE YEAR.                                                |  |                                    |                  |        |        |                |               |                            |                                    |                  |       |       |           |
| Years.                                                                    |  |                                    |                  |        |        |                |               |                            |                                    |                  |       |       |           |
| 0-1                                                                       |  | 94 219                             | 11 328           | 11 608 | 10 470 | 33 406         | 62-63         |                            | 34 212                             | 860              | 948   | 950   | 2 758     |
| 1-2                                                                       |  | 86 045                             | 2 038            | 2 064  | 1 680  | 5 782          | 63-64         |                            | 32 086                             | 915              | 985   | 1 008 | 2 908     |
| 2-3                                                                       |  | 94 527                             | 863              | 953    | 787    | 2 603          | 64-65         |                            | 30 370                             | 978              | 1 005 | 1 007 | 2 990     |
| 3-4                                                                       |  | 91 168                             | 522              | 623    | 519    | 1 664          | 65-66         |                            | 31 237                             | 1 108            | 1 248 | 1 115 | 3 529     |
| 4-5                                                                       |  | 93 058                             | 394              | 422    | 359    | 1 175          | 66-67         |                            | 26 741                             | 983              | 1 060 | 1 093 | 3 136     |
| 5-6                                                                       |  | 90 838                             | 342              | 321    | 276    | 939            | 67-68         |                            | 25 682                             | 1 079            | 1 071 | 1 166 | 3 319     |
| 6-7                                                                       |  | 90 067                             | 254              | 290    | 248    | 792            | 68-69         |                            | 25 436                             | 1 185            | 1 224 | 1 178 | 3 587     |
| 7-8                                                                       |  | 88 932                             | 205              | 240    | 244    | 689            | 69-70         |                            | 24 333                             | 1 138            | 1 209 | 1 142 | 3 489     |
| 8-9                                                                       |  | 87 237                             | 227              | 220    | 231    | 678            | 70-71         |                            | 25 672                             | 1 162            | 1 380 | 1 284 | 3 826     |
| 9-10                                                                      |  | 84 791                             | 180              | 191    | 181    | 552            | 71-72         |                            | 17 383                             | 1 041            | 1 171 | 1 235 | 3 447     |
| 10-11                                                                     |  | 86 189                             | 183              | 171    | 179    | 533            | 72-73         |                            | 19 941                             | 1 308            | 1 332 | 1 312 | 3 952     |
| 11-12                                                                     |  | 81 931                             | 186              | 195    | 182    | 563            | 73-74         |                            | 17 998                             | 1 296            | 1 385 | 1 368 | 4 049     |
| 12-13                                                                     |  | 88 323                             | 174              | 163    | 158    | 495            | 74-75         |                            | 16 330                             | 1 180            | 1 290 | 1 327 | 3 797     |
| 13-14                                                                     |  | 84 526                             | 202              | 216    | 181    | 599            | 75-76         |                            | 15 878                             | 1 293            | 1 396 | 1 444 | 4 133     |
| 14-15                                                                     |  | 87 790                             | 194              | 212    | 227    | 633            | 76-77         |                            | 13 913                             | 1 245            | 1 375 | 1 285 | 3 905     |
| 15-16                                                                     |  | 82 090                             | 213              | 213    | 228    | 654            | 77-78         |                            | 11 100                             | 1 135            | 1 303 | 1 293 | 3 731     |
| 16-17                                                                     |  | 87 670                             | 274              | 238    | 231    | 743            | 78-79         |                            | 10 325                             | 1 207            | 1 196 | 1 311 | 3 714     |
| 17-18                                                                     |  | 85 542                             | 308              | 287    | 315    | 910            | 79-80         |                            | 8 927                              | 1 146            | 1 145 | 1 174 | 3 465     |
| 18-19                                                                     |  | 87 237                             | 333              | 351    | 343    | 1 027          | 80-81         |                            | 8 437                              | 1 025            | 1 116 | 1 137 | 3 278     |
| 19-20                                                                     |  | 83 837                             | 400              | 392    | 395    | 1 187          | 81-82         |                            | 5 967                              | 908              | 938   | 903   | 2 839     |
| 20-21                                                                     |  | 82 057                             | 374              | 382    | 406    | 1 162          | 82-83         |                            | 5 862                              | 918              | 995   | 936   | 2 849     |
| 21-22                                                                     |  | 81 146                             | 376              | 412    | 409    | 1 197          | 83-84         |                            | 4 810                              | 846              | 918   | 910   | 2 674     |
| 22-23                                                                     |  | 79 384                             | 417              | 460    | 410    | 1 287          | 84-85         |                            | 4 197                              | 799              | 754   | 875   | 2 428     |
| 23-24                                                                     |  | 78 417                             | 388              | 410    | 423    | 1 221          | 85-86         |                            | 3 285                              | 681              | 704   | 667   | 2 052     |
| 24-25                                                                     |  | 77 663                             | 378              | 381    | 422    | 1 181          | 86-87         |                            | 2 664                              | 581              | 625   | 621   | 1 827     |
| 25-26                                                                     |  | 76 301                             | 375              | 385    | 417    | 1 177          | 87-88         |                            | 2 228                              | 484              | 534   | 510   | 1 528     |
| 26-27                                                                     |  | 74 320                             | 367              | 390    | 322    | 1 079          | 88-89         |                            | 1 630                              | 397              | 455   | 407   | 1 259     |
| 27-28                                                                     |  | 70 930                             | 359              | 399    | 408    | 1 166          | 89-90         |                            | 1 283                              | 317              | 342   | 337   | 996       |
| 28-29                                                                     |  | 75 948                             | 400              | 397    | 427    | 1 224          | 90-91         |                            | 1 047                              | 272              | 308   | 288   | 868       |
| 29-30                                                                     |  | 66 370                             | 316              | 361    | 351    | 1 028          | 91-92         |                            | 617                                | 200              | 206   | 218   | 621       |
| 30-31                                                                     |  | 80 152                             | 420              | 419    | 437    | 1 276          | 92-93         |                            | 435                                | 150              | 141   | 168   | 459       |
| 31-32                                                                     |  | 57 647                             | 354              | 343    | 340    | 1 037          | 93-94         |                            | 355                                | 111              | 139   | 111   | 361       |
| 32-33                                                                     |  | 68 500                             | 365              | 400    | 406    | 1 171          | 94-95         |                            | 238                                | 72               | 86    | 103   | 261       |
| 33-34                                                                     |  | 64 011                             | 359              | 355    | 365    | 1 109          | 95-96         |                            | 174                                | 52               | 66    | 57    | 175       |
| 34-35                                                                     |  | 66 555                             | 399              | 388    | 386    | 1 173          | 96-97         |                            | 91                                 | 38               | 47    | 32    | 117       |
| 35-36                                                                     |  | 72 977                             | 516              | 495    | 521    | 1 532          | 97-98         |                            | 62                                 | 30               | 39    | 33    | 102       |
| 36-37                                                                     |  | 64 912                             | 355              | 442    | 479    | 1 276          | 98-99         |                            | 39                                 | 21               | 19    | 15    | 55        |
| 37-38                                                                     |  | 61 135                             | 356              | 421    | 386    | 1 163          | 99-100        |                            | 29                                 | 16               | 15    | 19    | 50        |
| 38-39                                                                     |  | 70 822                             | 457              | 461    | 467    | 1 385          | 100-101       |                            | 29                                 | 9                | 9     | 6     | 24        |
| 39-40                                                                     |  | 61 902                             | 436              | 419    | 394    | 1 249          | 101-102       |                            | 4                                  | 3                | 1     | 8     | 10        |
| 40-41                                                                     |  | 77 181                             | 521              | 541    | 527    | 1 589          | 102-103       |                            | 5                                  | 2                | 5     | 0     | 7         |
| 41-42                                                                     |  | 50 415                             | 377              | 409    | 412    | 1 198          | 103-104       |                            | 3                                  | 1                | 5     | 5     | 11        |
| 42-43                                                                     |  | 65 555                             | 482              | 476    | 500    | 1 464          | 104-105       |                            | 1                                  | 3                | 1     | 2     | 6         |
| 43-44                                                                     |  | 54 866                             | 443              | 428    | 450    | 1 321          | 105-106       |                            | 4                                  | 4                | 0     | 1     | 5         |
| 44-45                                                                     |  | 52 647                             | 365              | 419    | 428    | 1 212          | 106-107       |                            | 1                                  | 0                | 0     | 0     | 0         |
| 45-46                                                                     |  | 61 219                             | 526              | 521    | 587    | 1 634          | 107-108       |                            | 0                                  | 0                | 0     | 1     | 1         |
| 46-47                                                                     |  | 49 562                             | 463              | 503    | 408    | 1 374          | 108-109       |                            | 0                                  | 0                | 1     | 0     | 1         |
| 47-48                                                                     |  | 49 987                             | 480              | 505    | 497    | 1 482          | 109-110       |                            | 0                                  | 0                | 0     | 1     | 1         |
| 48-49                                                                     |  | 56 680                             | 542              | 561    | 536    | 1 642          | 110-111       |                            | 0                                  | 2                | 0     | 0     | 2         |
| 49-50                                                                     |  | 54 247                             | 514              | 568    | 529    | 1 611          | 111-112       |                            | 1                                  | 0                | 0     | 0     | 0         |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |  |                                    |                  |        |        |                |               |                            |                                    |                  |       |       |           |
| CALENDAR YEAR.                                                            |  | AGE INTERVALS OF ONE YEAR.         |                  |        |        | CALENDAR YEAR. |               | AGE INTERVALS OF ONE YEAR. |                                    |                  |       |       |           |
|                                                                           |  | 0-1                                | 1-2              | 2-3    | 3-4    |                |               | 1-2                        | 2-3                                | 3-4              | 4-5   |       |           |
| 1912                                                                      |  | 10 419                             | 1 604            | 781    | 460    | 1913           |               | 1 742                      | 833                                | 514              | 410   |       |           |

TABLE 150 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR WHITE FEMALES IN RURAL PART OF ORIGINAL REGISTRATION STATES:  
1910.

Unknown age distributed.

| AGE<br>INTERVAL.                                                          | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |        |        |                | AGE<br>INTERVAL.           | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |       |       |           |
|---------------------------------------------------------------------------|------------------------------------------|------------------|--------|--------|----------------|----------------------------|------------------------------------------|------------------|-------|-------|-----------|
|                                                                           |                                          | 1909             | 1910   | 1911   | 1909-1911      |                            |                                          | 1909             | 1910  | 1911  | 1909-1911 |
| 1                                                                         | 2                                        | 3                | 4      | 5      | 6              | 7                          | 8                                        | 9                | 10    | 11    | 12        |
| All ages.                                                                 | 4 459 015                                | 59 139           | 62 476 | 61 332 | 182 947        | Years.                     |                                          |                  |       |       |           |
| INFANT MORTALITY BY MONTHS.                                               |                                          |                  |        |        |                | 50-51                      | 57 319                                   | 471              | 540   | 553   | 1 564     |
| Months.                                                                   |                                          |                  |        |        |                | 51-52                      | 39 208                                   | 475              | 446   | 483   | 1 404     |
| 0-1                                                                       |                                          | 3 635            | 3 596  | 3 697  | 10 928         | 52-53                      | 47 503                                   | 440              | 530   | 538   | 1 508     |
| 1-2                                                                       |                                          | 858              | 861    | 737    | 2 456          | 53-54                      | 41 093                                   | 467              | 532   | 526   | 1 525     |
| 2-3                                                                       |                                          | 673              | 766    | 639    | 2 078          | 54-55                      | 41 890                                   | 570              | 540   | 591   | 1 701     |
| 3-4                                                                       |                                          | 608              | 633    | 556    | 1 797          | 55-56                      | 40 555                                   | 535              | 591   | 588   | 1 714     |
| 4-5                                                                       |                                          | 519              | 511    | 450    | 1 480          | 56-57                      | 38 083                                   | 522              | 599   | 597   | 1 718     |
| 5-6                                                                       |                                          | 440              | 517    | 424    | 1 381          | 57-58                      | 33 215                                   | 537              | 578   | 599   | 1 714     |
| 6-7                                                                       |                                          | 444              | 456    | 327    | 1 227          | 58-59                      | 35 085                                   | 595              | 602   | 635   | 1 832     |
| 7-8                                                                       |                                          | 342              | 378    | 323    | 1 043          | 59-60                      | 32 868                                   | 618              | 614   | 630   | 1 862     |
| 8-9                                                                       |                                          | 364              | 333    | 284    | 981            | 60-61                      | 39 734                                   | 650              | 725   | 708   | 2 083     |
| 9-10                                                                      |                                          | 289              | 352    | 246    | 887            | 61-62                      | 26 408                                   | 580              | 660   | 748   | 1 988     |
| 10-11                                                                     |                                          | 278              | 294    | 250    | 822            | 62-63                      | 31 130                                   | 708              | 807   | 767   | 2 282     |
| 11-12                                                                     |                                          | 271              | 330    | 229    | 830            | 63-64                      | 29 717                                   | 779              | 806   | 839   | 2 424     |
| AGE INTERVALS OF ONE YEAR.                                                |                                          |                  |        |        |                | 64-65                      | 29 127                                   | 861              | 823   | 787   | 2 471     |
| Years.                                                                    |                                          |                  |        |        |                | 65-66                      | 32 790                                   | 955              | 998   | 987   | 2 940     |
| 0-1                                                                       | 91 507                                   | 8 721            | 9 027  | 8 162  | 25 910         | 66-67                      | 25 359                                   | 833              | 932   | 945   | 2 710     |
| 1-2                                                                       | 81 085                                   | 1 739            | 1 760  | 1 471  | 4 970          | 67-68                      | 24 204                                   | 976              | 933   | 1 029 | 2 937     |
| 2-3                                                                       | 90 931                                   | 776              | 885    | 670    | 2 331          | 68-69                      | 24 063                                   | 991              | 1 045 | 1 023 | 3 059     |
| 3-4                                                                       | 91 623                                   | 456              | 523    | 450    | 1 429          | 69-70                      | 22 082                                   | 1 035            | 1 022 | 1 040 | 3 097     |
| 4-5                                                                       | 90 423                                   | 335              | 387    | 309    | 1 031          | 70-71                      | 24 888                                   | 1 110            | 1 236 | 1 225 | 3 571     |
| 5-6                                                                       | 88 100                                   | 278              | 298    | 271    | 847            | 71-72                      | 16 089                                   | 923              | 1 070 | 1 061 | 3 054     |
| 6-7                                                                       | 87 986                                   | 241              | 278    | 211    | 730            | 72-73                      | 19 243                                   | 1 108            | 1 155 | 1 176 | 3 439     |
| 7-8                                                                       | 86 284                                   | 194              | 235    | 229    | 658            | 73-74                      | 17 110                                   | 1 131            | 1 170 | 1 203 | 3 507     |
| 8-9                                                                       | 84 235                                   | 177              | 186    | 185    | 548            | 74-75                      | 15 696                                   | 1 066            | 1 139 | 1 188 | 3 393     |
| 9-10                                                                      | 81 610                                   | 153              | 182    | 154    | 489            | 75-76                      | 16 120                                   | 1 192            | 1 195 | 1 264 | 3 632     |
| 10-11                                                                     | 83 136                                   | 150              | 151    | 130    | 431            | 76-77                      | 13 897                                   | 1 084            | 1 253 | 1 214 | 3 551     |
| 11-12                                                                     | 79 901                                   | 148              | 161    | 140    | 449            | 77-78                      | 10 963                                   | 1 088            | 1 147 | 1 147 | 3 382     |
| 12-13                                                                     | 84 633                                   | 153              | 173    | 143    | 469            | 78-79                      | 10 403                                   | 1 100            | 1 090 | 1 191 | 3 391     |
| 13-14                                                                     | 82 291                                   | 157              | 179    | 172    | 508            | 79-80                      | 8 651                                    | 1 016            | 1 091 | 1 054 | 3 161     |
| 14-15                                                                     | 82 882                                   | 196              | 203    | 179    | 578            | 80-81                      | 8 960                                    | 1 012            | 1 158 | 1 096 | 3 264     |
| 15-16                                                                     | 79 578                                   | 190              | 204    | 191    | 585            | 81-82                      | 5 891                                    | 895              | 881   | 975   | 2 751     |
| 16-17                                                                     | 84 364                                   | 254              | 227    | 195    | 676            | 82-83                      | 5 966                                    | 817              | 1 016 | 936   | 2 769     |
| 17-18                                                                     | 80 016                                   | 278              | 291    | 275    | 844            | 83-84                      | 5 161                                    | 807              | 863   | 893   | 2 568     |
| 18-19                                                                     | 81 071                                   | 298              | 295    | 305    | 898            | 84-85                      | 4 668                                    | 775              | 843   | 859   | 2 477     |
| 19-20                                                                     | 70 162                                   | 319              | 302    | 311    | 932            | 85-86                      | 3 767                                    | 693              | 768   | 720   | 2 181     |
| 20-21                                                                     | 80 240                                   | 289              | 385    | 332    | 1 006          | 86-87                      | 2 980                                    | 621              | 633   | 697   | 1 951     |
| 21-22                                                                     | 72 350                                   | 321              | 408    | 371    | 1 100          | 87-88                      | 2 445                                    | 558              | 555   | 579   | 1 692     |
| 22-23                                                                     | 75 406                                   | 337              | 394    | 372    | 1 103          | 88-89                      | 1 992                                    | 500              | 454   | 461   | 1 415     |
| 23-24                                                                     | 74 610                                   | 375              | 391    | 350    | 1 116          | 89-90                      | 1 508                                    | 387              | 387   | 434   | 1 208     |
| 24-25                                                                     | 72 712                                   | 398              | 398    | 360    | 1 156          | 90-91                      | 1 248                                    | 330              | 371   | 350   | 1 051     |
| 25-26                                                                     | 73 692                                   | 330              | 341    | 391    | 1 062          | 91-92                      | 742                                      | 217              | 242   | 266   | 725       |
| 26-27                                                                     | 69 968                                   | 357              | 391    | 368    | 1 116          | 92-93                      | 625                                      | 158              | 221   | 196   | 575       |
| 27-28                                                                     | 65 827                                   | 335              | 383    | 379    | 1 097          | 93-94                      | 475                                      | 157              | 171   | 169   | 497       |
| 28-29                                                                     | 71 835                                   | 419              | 393    | 371    | 1 183          | 94-95                      | 321                                      | 117              | 121   | 144   | 382       |
| 29-30                                                                     | 62 408                                   | 366              | 351    | 369    | 1 080          | 95-96                      | 262                                      | 82               | 100   | 87    | 269       |
| 30-31                                                                     | 74 807                                   | 335              | 370    | 353    | 1 058          | 96-97                      | 145                                      | 64               | 65    | 65    | 194       |
| 31-32                                                                     | 55 795                                   | 323              | 337    | 335    | 995            | 97-98                      | 80                                       | 44               | 58    | 46    | 148       |
| 32-33                                                                     | 66 271                                   | 358              | 366    | 422    | 1 146          | 98-99                      | 71                                       | 36               | 38    | 42    | 116       |
| 33-34                                                                     | 60 708                                   | 351              | 343    | 350    | 1 074          | 99-100                     | 48                                       | 18               | 11    | 21    | 50        |
| 34-35                                                                     | 62 198                                   | 365              | 356    | 357    | 1 108          | 100-101                    | 28                                       | 17               | 17    | 20    | 54        |
| 35-36                                                                     | 66 199                                   | 381              | 372    | 424    | 1 177          | 101-102                    | 10                                       | 10               | 4     | 10    | 24        |
| 36-37                                                                     | 61 936                                   | 378              | 395    | 403    | 1 176          | 102-103                    | 6                                        | 3                | 4     | 2     | 9         |
| 37-38                                                                     | 57 775                                   | 355              | 407    | 374    | 1 166          | 103-104                    | 6                                        | 1                | 5     | 5     | 11        |
| 38-39                                                                     | 66 128                                   | 448              | 384    | 419    | 1 251          | 104-105                    | 7                                        | 3                | 1     | 5     | 9         |
| 39-40                                                                     | 56 711                                   | 390              | 398    | 412    | 1 200          | 105-106                    | 5                                        | 0                | 4     | 1     | 5         |
| 40-41                                                                     | 68 393                                   | 415              | 403    | 402    | 1 220          | 106-107                    | 4                                        | 2                | 0     | 1     | 3         |
| 41-42                                                                     | 46 978                                   | 330              | 354    | 361    | 1 045          | 107-108                    | 2                                        | 2                | 1     | 2     | 5         |
| 42-43                                                                     | 60 015                                   | 409              | 416    | 402    | 1 227          | 108-109                    | 1                                        | 3                | 0     | 1     | 4         |
| 43-44                                                                     | 51 977                                   | 353              | 379    | 417    | 1 149          | 109-110                    | 0                                        | 1                | 0     |       | 1         |
| 44-45                                                                     | 49 120                                   | 342              | 363    | 417    | 1 122          | 110-111                    | 0                                        | 0                | 0     |       | 0         |
| 45-46                                                                     | 53 691                                   | 410              | 368    | 461    | 1 239          | 111-112                    | 0                                        | 1                | 1     |       | 2         |
| 46-47                                                                     | 45 829                                   | 369              | 406    | 374    | 1 149          | 112-113                    | 0                                        |                  |       |       |           |
| 47-48                                                                     | 46 604                                   | 390              | 436    | 394    | 1 220          | 113-114                    | 0                                        |                  |       |       |           |
| 48-49                                                                     | 53 490                                   | 460              | 465    | 485    | 1 410          | 114-115                    | 1                                        |                  |       |       |           |
| 49-50                                                                     | 48 705                                   | 458              | 483    | 502    | 1 443          |                            |                                          |                  |       |       |           |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                          |                  |        |        |                |                            |                                          |                  |       |       |           |
| CALENDAR YEAR.                                                            | AGE INTERVALS OF ONE YEAR.               |                  |        |        | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |                                          |                  |       |       |           |
|                                                                           | 0-1                                      | 1-2              | 2-3    | 3-4    |                | 1-2                        | 2-3                                      | 3-4              | 4-5   |       |           |
| 1912                                                                      | 7 830                                    | 1 391            | 646    | 403    | 1913           | 1 536                      | 688                                      | 467              | 346   |       |           |



## UNITED STATES LIFE TABLES.

TABLE 151 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR MALES IN THE STATE OF INDIANA: 1910.

Unknown ages distributed.

| AGE<br>INTERVAL.            | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |        |        |           |
|-----------------------------|------------------------------------------|------------------|--------|--------|-----------|
|                             |                                          | 1909             | 1910   | 1911   | 1909-1911 |
| 1                           | 2                                        | 3                | 4      | 5      | 6         |
| All ages.                   | 1 385 288                                | 18 264           | 19 251 | 18 717 | 56 232    |
| INFANT MORTALITY BY MONTHS. |                                          |                  |        |        |           |
| Months.                     |                                          |                  |        |        |           |
| 0-1                         |                                          | 1 462            | 1 507  | 1 559  | 4 528     |
| 1-2                         |                                          | 281              | 315    | 254    | 850       |
| 2-3                         |                                          | 248              | 240    | 194    | 682       |
| 3-4                         |                                          | 198              | 192    | 175    | 565       |
| 4-5                         |                                          | 173              | 154    | 148    | 475       |
| 5-6                         |                                          | 150              | 148    | 124    | 422       |
| 6-7                         |                                          | 149              | 135    | 120    | 404       |
| 7-8                         |                                          | 118              | 150    | 94     | 362       |
| 8-9                         |                                          | 137              | 127    | 77     | 341       |
| 9-10                        |                                          | 90               | 113    | 102    | 305       |
| 10-11                       |                                          | 99               | 126    | 79     | 304       |
| 11-12                       |                                          | 83               | 108    | 74     | 265       |
| AGE INTERVALS OF ONE YEAR.  |                                          |                  |        |        |           |
| Years.                      |                                          |                  |        |        |           |
| 0-1                         | 28 434                                   | 3 188            | 3 315  | 3 000  | 9 503     |
| 1-2                         | 26 234                                   | 734              | 791    | 605    | 2 130     |
| 2-3                         | 28 626                                   | 284              | 349    | 258    | 891       |
| 3-4                         | 28 558                                   | 164              | 191    | 162    | 517       |
| 4-5                         | 28 676                                   | 104              | 129    | 119    | 352       |
| 5-6                         | 27 768                                   | 109              | 119    | 82     | 310       |
| 6-7                         | 27 590                                   | 84               | 93     | 94     | 271       |
| 7-8                         | 26 601                                   | 93               | 62     | 88     | 243       |
| 8-9                         | 26 794                                   | 80               | 73     | 71     | 224       |
| 9-10                        | 26 194                                   | 60               | 60     | 52     | 172       |
| 10-11                       | 26 280                                   | 55               | 49     | 63     | 167       |
| 11-12                       | 24 858                                   | 65               | 65     | 65     | 195       |
| 12-13                       | 26 234                                   | 52               | 50     | 48     | 150       |
| 13-14                       | 25 348                                   | 78               | 68     | 62     | 208       |
| 14-15                       | 26 887                                   | 68               | 64     | 75     | 207       |
| 15-16                       | 25 113                                   | 79               | 73     | 68     | 220       |
| 16-17                       | 26 664                                   | 109              | 78     | 90     | 277       |
| 17-18                       | 26 626                                   | 104              | 112    | 104    | 320       |
| 18-19                       | 27 143                                   | 111              | 120    | 118    | 349       |
| 19-20                       | 26 007                                   | 126              | 138    | 125    | 389       |
| 20-21                       | 26 068                                   | 139              | 153    | 132    | 424       |
| 21-22                       | 25 873                                   | 135              | 162    | 142    | 439       |
| 22-23                       | 25 223                                   | 135              | 154    | 133    | 422       |
| 23-24                       | 25 397                                   | 132              | 145    | 151    | 428       |
| 24-25                       | 24 637                                   | 136              | 123    | 134    | 393       |
| 25-26                       | 24 438                                   | 144              | 132    | 133    | 409       |
| 26-27                       | 24 317                                   | 141              | 137    | 111    | 389       |
| 27-28                       | 22 919                                   | 129              | 130    | 142    | 401       |
| 28-29                       | 24 204                                   | 137              | 128    | 128    | 393       |
| 29-30                       | 21 024                                   | 118              | 143    | 120    | 381       |
| 30-31                       | 24 334                                   | 153              | 148    | 139    | 440       |
| 31-32                       | 17 717                                   | 114              | 113    | 129    | 356       |
| 32-33                       | 20 512                                   | 97               | 137    | 144    | 378       |
| 33-34                       | 18 851                                   | 107              | 120    | 109    | 336       |
| 34-35                       | 19 781                                   | 118              | 129    | 126    | 373       |
| 35-36                       | 21 501                                   | 142              | 153    | 175    | 470       |
| 36-37                       | 19 285                                   | 112              | 116    | 151    | 379       |
| 37-38                       | 18 332                                   | 119              | 123    | 112    | 354       |
| 38-39                       | 20 487                                   | 119              | 169    | 154    | 442       |
| 39-40                       | 18 314                                   | 131              | 116    | 138    | 385       |
| 40-41                       | 21 842                                   | 157              | 157    | 141    | 455       |
| 41-42                       | 14 924                                   | 122              | 126    | 146    | 394       |
| 42-43                       | 18 810                                   | 158              | 144    | 155    | 457       |
| 43-44                       | 15 725                                   | 135              | 145    | 133    | 414       |
| 44-45                       | 14 704                                   | 124              | 125    | 144    | 393       |
| 45-46                       | 16 175                                   | 131              | 164    | 157    | 452       |
| 46-47                       | 13 090                                   | 128              | 123    | 131    | 382       |
| 47-48                       | 14 020                                   | 145              | 156    | 129    | 430       |
| 48-49                       | 15 452                                   | 170              | 175    | 174    | 519       |
| 49-50                       | 15 001                                   | 159              | 165    | 145    | 469       |

| AGE<br>INTERVAL. | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |      |      |           |
|------------------|------------------------------------------|------------------|------|------|-----------|
|                  |                                          | 1909             | 1910 | 1911 | 1909-1911 |
| 7                | 8                                        | 9                | 10   | 11   | 12        |
| Years.           |                                          |                  |      |      |           |
| 50-51            | 17 452                                   | 173              | 190  | 182  | 545       |
| 51-52            | 12 543                                   | 147              | 164  | 158  | 469       |
| 52-53            | 15 735                                   | 174              | 193  | 201  | 568       |
| 53-54            | 13 231                                   | 156              | 168  | 168  | 492       |
| 54-55            | 12 560                                   | 202              | 164  | 179  | 545       |
| 55-56            | 11 787                                   | 209              | 187  | 212  | 608       |
| 56-57            | 11 604                                   | 185              | 208  | 211  | 604       |
| 57-58            | 10 204                                   | 174              | 177  | 236  | 587       |
| 58-59            | 10 161                                   | 209              | 237  | 211  | 657       |
| 59-60            | 9 359                                    | 199              | 200  | 211  | 610       |
| 60-61            | 10 455                                   | 222              | 253  | 228  | 703       |
| 61-62            | 7 762                                    | 173              | 203  | 215  | 591       |
| 62-63            | 8 957                                    | 217              | 223  | 254  | 694       |
| 63-64            | 8 600                                    | 232              | 247  | 285  | 764       |
| 64-65            | 7 699                                    | 262              | 271  | 240  | 773       |
| 65-66            | 8 406                                    | 261              | 298  | 291  | 850       |
| 66-67            | 6 718                                    | 264              | 248  | 257  | 769       |
| 67-68            | 6 400                                    | 239              | 246  | 291  | 776       |
| 68-69            | 6 297                                    | 276              | 279  | 288  | 843       |
| 69-70            | 5 803                                    | 285              | 294  | 269  | 848       |
| 70-71            | 5 755                                    | 283              | 330  | 321  | 934       |
| 71-72            | 3 990                                    | 240              | 258  | 295  | 793       |
| 72-73            | 4 649                                    | 272              | 306  | 306  | 884       |
| 73-74            | 4 188                                    | 269              | 272  | 318  | 859       |
| 74-75            | 3 535                                    | 267              | 334  | 298  | 899       |
| 75-76            | 3 471                                    | 292              | 288  | 318  | 898       |
| 76-77            | 3 134                                    | 298              | 312  | 252  | 862       |
| 77-78            | 2 551                                    | 272              | 329  | 276  | 877       |
| 78-79            | 2 178                                    | 277              | 268  | 304  | 849       |
| 79-80            | 1 877                                    | 249              | 249  | 262  | 760       |
| 80-81            | 1 758                                    | 188              | 258  | 233  | 679       |
| 81-82            | 1 228                                    | 186              | 211  | 211  | 608       |
| 82-83            | 1 161                                    | 208              | 195  | 185  | 588       |
| 83-84            | 1 033                                    | 160              | 197  | 186  | 543       |
| 84-85            | 893                                      | 156              | 148  | 175  | 479       |
| 85-86            | 636                                      | 131              | 132  | 139  | 402       |
| 86-87            | 516                                      | 104              | 103  | 115  | 322       |
| 87-88            | 428                                      | 86               | 99   | 90   | 275       |
| 88-89            | 313                                      | 72               | 83   | 74   | 229       |
| 89-90            | 217                                      | 76               | 59   | 59   | 194       |
| 90-91            | 181                                      | 49               | 46   | 45   | 140       |
| 91-92            | 93                                       | 34               | 25   | 36   | 95        |
| 92-93            | 73                                       | 30               | 25   | 30   | 85        |
| 93-94            | 55                                       | 20               | 22   | 13   | 55        |
| 94-95            | 49                                       | 11               | 18   | 15   | 44        |
| 95-96            | 36                                       | 10               | 9    | 7    | 26        |
| 96-97            | 17                                       | 7                | 9    | 8    | 24        |
| 97-98            | 8                                        | 5                | 6    | 8    | 19        |
| 98-99            | 9                                        | 5                | 1    | 3    | 9         |
| 99-100           | 8                                        | 4                | 3    | 3    | 10        |
| 100-101          | 8                                        | 4                | 3    | 2    | 9         |
| 101-102          | 1                                        | 2                | 0    | 2    | 4         |
| 102-103          | 0                                        | 1                | 1    | 0    | 2         |
| 103-104          | 1                                        | 0                | 2    | 0    | 2         |
| 104-105          | 1                                        | 0                | 0    | 0    | 0         |
| 105-106          | 1                                        | 1                | 0    | 0    | 1         |
| 106-107          | 0                                        | 0                | 0    | 0    | 0         |
| 107-108          | 0                                        | 0                | 0    | 0    | 0         |
| 108-109          | 0                                        | 1                | 0    | 0    | 1         |
| 109-110          | 0                                        | 0                | 1    | 1    | 1         |

| CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |     |     |     |
|----------------|----------------------------|-----|-----|-----|
|                | 0-1                        | 1-2 | 2-3 | 3-4 |
| 1912           | 2 967                      | 612 | 300 | 151 |

| CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |     |     |     |
|----------------|----------------------------|-----|-----|-----|
|                | 1-2                        | 2-3 | 3-4 | 4-5 |
| 1913           | 675                        | 294 | 164 | 132 |

TABLE 152 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR FEMALES IN THE STATE OF INDIANA: 1910.

Unknown ages distributed.

| REPORTED DEATHS.                                                          |                                          |        |        |        |                | REPORTED DEATHS.           |                                          |      |      |      |           |
|---------------------------------------------------------------------------|------------------------------------------|--------|--------|--------|----------------|----------------------------|------------------------------------------|------|------|------|-----------|
| AGE<br>INTERVAL.                                                          | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | 1909   | 1910   | 1911   | 1909-1911      | AGE<br>INTERVAL.           | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | 1909 | 1910 | 1911 | 1909-1911 |
| 1                                                                         | 2                                        | 3      | 4      | 5      | 6              | 7                          | 8                                        | 9    | 10   | 11   | 12        |
| All ages.                                                                 | 1 319 479                                | 16 255 | 17 197 | 16 403 | 49 945         | Years.                     |                                          |      |      |      |           |
| INFANT MORTALITY BY MONTHS.                                               |                                          |        |        |        |                | 50-51                      | 15 626                                   | 141  | 150  | 160  | 451       |
| Months.                                                                   |                                          |        |        |        |                | 51-52                      | 11 055                                   | 182  | 155  | 148  | 465       |
| 0-1                                                                       |                                          | 1 084  | 1 139  | 1 171  | 3 394          | 52-53                      | 13 428                                   | 140  | 174  | 167  | 481       |
| 1-2                                                                       |                                          | 246    | 259    | 204    | 709            | 53-54                      | 11 038                                   | 118  | 156  | 158  | 432       |
| 2-3                                                                       |                                          | 178    | 219    | 165    | 562            | 54-55                      | 11 240                                   | 160  | 148  | 163  | 471       |
| 3-4                                                                       |                                          | 135    | 160    | 115    | 410            | 55-56                      | 10 755                                   | 165  | 178  | 148  | 491       |
| 4-5                                                                       |                                          | 140    | 129    | 124    | 393            | 56-57                      | 10 273                                   | 156  | 141  | 161  | 458       |
| 5-6                                                                       |                                          | 124    | 140    | 111    | 375            | 57-58                      | 8 804                                    | 129  | 155  | 159  | 443       |
| 6-7                                                                       |                                          |        |        |        |                | 58-59                      | 9 516                                    | 155  | 165  | 181  | 501       |
| 7-8                                                                       |                                          | 111    | 132    | 85     | 328            | 59-60                      | 8 426                                    | 161  | 174  | 173  | 508       |
| 8-9                                                                       |                                          | 77     | 110    | 81     | 268            | 60-61                      | 9 692                                    | 164  | 212  | 193  | 569       |
| 9-10                                                                      |                                          | 102    | 104    | 102    | 308            | 61-62                      | 6 730                                    | 144  | 185  | 204  | 533       |
| 10-11                                                                     |                                          | 70     | 95     | 64     | 229            | 62-63                      | 7 591                                    | 200  | 212  | 178  | 590       |
| 11-12                                                                     |                                          | 87     | 101    | 72     | 260            | 63-64                      | 7 486                                    | 187  | 184  | 175  | 546       |
|                                                                           |                                          | 103    | 98     | 73     | 274            | 64-65                      | 6 975                                    | 208  | 210  | 206  | 624       |
| AGE INTERVALS OF ONE YEAR.                                                |                                          |        |        |        |                | 65-66                      | 7 733                                    | 233  | 200  | 224  | 657       |
| Years.                                                                    |                                          |        |        |        |                | 66-67                      | 6 378                                    | 204  | 240  | 257  | 701       |
| 0-1                                                                       | 27 818                                   | 2 457  | 2 686  | 2 367  | 7 510          | 67-68                      | 5 748                                    | 239  | 211  | 255  | 705       |
| 1-2                                                                       | 25 277                                   | 632    | 644    | 499    | 1 775          | 68-69                      | 5 688                                    | 264  | 246  | 244  | 754       |
| 2-3                                                                       | 27 468                                   | 274    | 293    | 226    | 793            | 69-70                      | 5 206                                    | 254  | 263  | 238  | 755       |
| 3-4                                                                       | 27 557                                   | 133    | 162    | 152    | 447            | 70-71                      | 5 252                                    | 234  | 266  | 262  | 762       |
| 4-5                                                                       | 27 631                                   | 106    | 141    | 110    | 357            | 71-72                      | 3 549                                    | 243  | 231  | 274  | 748       |
| 5-6                                                                       |                                          |        |        |        |                | 72-73                      | 4 320                                    | 245  | 277  | 261  | 783       |
| 6-7                                                                       | 26 752                                   | 80     | 95     | 88     | 263            | 73-74                      | 3 699                                    | 270  | 254  | 267  | 791       |
| 7-8                                                                       | 26 875                                   | 73     | 83     | 81     | 237            | 74-75                      | 3 298                                    | 236  | 252  | 271  | 759       |
| 8-9                                                                       | 23 941                                   | 60     | 63     | 73     | 196            | 75-76                      | 3 410                                    | 270  | 268  | 278  | 816       |
| 9-10                                                                      | 26 096                                   | 60     | 63     | 65     | 188            | 76-77                      | 2 989                                    | 241  | 259  | 239  | 739       |
| 10-11                                                                     | 25 154                                   | 50     | 61     | 51     | 162            | 77-78                      | 2 387                                    | 242  | 266  | 234  | 742       |
| 11-12                                                                     |                                          |        |        |        |                | 78-79                      | 2 103                                    | 231  | 220  | 237  | 688       |
| 12-13                                                                     | 25 576                                   | 47     | 43     | 39     | 129            | 79-80                      | 1 703                                    | 206  | 238  | 236  | 680       |
| 13-14                                                                     | 24 430                                   | 57     | 58     | 41     | 156            | 80-81                      | 1 698                                    | 185  | 210  | 215  | 610       |
| 14-15                                                                     | 25 714                                   | 52     | 64     | 51     | 167            | 81-82                      | 1 092                                    | 204  | 175  | 174  | 553       |
| 15-16                                                                     | 25 252                                   | 64     | 64     | 51     | 179            | 82-83                      | 1 196                                    | 175  | 201  | 170  | 546       |
| 16-17                                                                     | 25 691                                   | 79     | 63     | 68     | 210            | 83-84                      | 1 024                                    | 164  | 168  | 189  | 521       |
| 17-18                                                                     |                                          |        |        |        |                | 84-85                      | 858                                      | 131  | 154  | 158  | 443       |
| 18-19                                                                     | 24 582                                   | 82     | 87     | 86     | 255            | 85-86                      | 677                                      | 149  | 127  | 177  | 453       |
| 19-20                                                                     | 26 384                                   | 101    | 81     | 70     | 252            | 86-87                      | 499                                      | 111  | 98   | 138  | 347       |
| 20-21                                                                     | 25 163                                   | 105    | 124    | 105    | 334            | 87-88                      | 425                                      | 108  | 95   | 89   | 292       |
| 21-22                                                                     | 27 207                                   | 129    | 111    | 121    | 361            | 88-89                      | 318                                      | 87   | 77   | 85   | 249       |
| 22-23                                                                     | 24 971                                   | 127    | 123    | 131    | 381            | 89-90                      | 266                                      | 66   | 70   | 71   | 207       |
| 23-24                                                                     |                                          |        |        |        |                | 90-91                      | 250                                      | 51   | 66   | 56   | 173       |
| 24-25                                                                     | 26 672                                   | 114    | 168    | 135    | 417            | 91-92                      | 92                                       | 38   | 35   | 52   | 125       |
| 25-26                                                                     | 24 324                                   | 109    | 176    | 147    | 432            | 92-93                      | 99                                       | 24   | 25   | 28   | 77        |
| 26-27                                                                     | 24 882                                   | 130    | 155    | 152    | 437            | 93-94                      | 69                                       | 30   | 19   | 28   | 77        |
| 27-28                                                                     | 25 060                                   | 145    | 159    | 146    | 450            | 94-95                      | 55                                       | 12   | 20   | 25   | 57        |
| 28-29                                                                     | 23 841                                   | 156    | 151    | 154    | 461            | 95-96                      | 48                                       | 15   | 16   | 15   | 46        |
| 29-30                                                                     |                                          |        |        |        |                | 96-97                      | 26                                       | 13   | 14   | 11   | 38        |
| 30-31                                                                     | 24 338                                   | 127    | 144    | 152    | 423            | 97-98                      | 14                                       | 6    | 8    | 8    | 22        |
| 31-32                                                                     | 23 828                                   | 149    | 160    | 134    | 443            | 98-99                      | 9                                        | 9    | 8    | 6    | 23        |
| 32-33                                                                     | 21 883                                   | 141    | 150    | 127    | 453            | 99-100                     | 5                                        | 3    | 1    | 2    | 6         |
| 33-34                                                                     | 23 053                                   | 182    | 144    | 127    | 453            | 100-101                    | 8                                        | 6    | 3    | 3    | 12        |
| 34-35                                                                     | 20 120                                   | 132    | 134    | 123    | 389            | 101-102                    | 1                                        | 0    | 2    | 2    | 4         |
| 35-36                                                                     |                                          |        |        |        |                | 102-103                    | 4                                        | 5    | 1    | 1    | 7         |
| 36-37                                                                     | 19 448                                   | 131    | 124    | 153    | 408            | 103-104                    | 0                                        | 1    | 1    | 0    | 2         |
| 37-38                                                                     | 18 620                                   | 148    | 134    | 124    | 406            | 104-105                    | 1                                        | 0    | 0    | 0    | 0         |
| 38-39                                                                     | 17 405                                   | 138    | 136    | 131    | 405            | 105-106                    | 0                                        | 0    | 0    | 0    | 0         |
| 39-40                                                                     | 19 334                                   | 122    | 124    | 141    | 387            | 106-107                    | 1                                        | 1    | 0    | 1    | 2         |
| 40-41                                                                     | 16 652                                   | 128    | 136    | 136    | 400            | 107-108                    | 2                                        | 1    | 0    | 1    | 1         |
| 41-42                                                                     |                                          |        |        |        |                | 108-109                    | 1                                        | 0    | 1    | 1    | 0         |
| 42-43                                                                     | 19 641                                   | 142    | 124    | 142    | 408            | 109-110                    | 1                                        | 0    | 0    | 0    | 0         |
| 43-44                                                                     | 13 856                                   | 100    | 129    | 112    | 341            | 110-111                    | 1                                        | 1    | 0    | 0    | 1         |
| 44-45                                                                     | 17 730                                   | 142    | 125    | 145    | 412            | 111-112                    | 0                                        | 0    | 0    | 0    | 0         |
| 45-46                                                                     | 15 040                                   | 90     | 126    | 120    | 336            | 112-113                    | 1                                        | 0    | 0    | 0    | 0         |
| 46-47                                                                     | 13 789                                   | 121    | 137    | 126    | 384            | 113-114                    | 1                                        | 0    | 0    | 0    | 0         |
| 47-48                                                                     |                                          |        |        |        |                | 114-115                    | 1                                        | 0    | 0    | 0    | 0         |
| 48-49                                                                     | 14 471                                   | 108    | 120    | 137    | 365            | 115-116                    | 1                                        | 0    | 0    | 0    | 0         |
| 49-50                                                                     | 12 882                                   | 124    | 125    | 96     | 345            | 120-121                    | 1                                        | 1    | 0    | 0    | 1         |
|                                                                           | 13 293                                   | 96     | 140    | 119    | 355            |                            |                                          |      |      |      |           |
|                                                                           | 15 362                                   | 130    | 153    | 116    | 399            |                            |                                          |      |      |      |           |
|                                                                           | 14 040                                   | 158    | 154    | 135    | 447            |                            |                                          |      |      |      |           |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                          |        |        |        |                |                            |                                          |      |      |      |           |
| CALENDAR YEAR.                                                            | AGE INTERVALS OF ONE YEAR.               |        |        |        | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |                                          |      |      |      |           |
|                                                                           | 0-1                                      | 1-2    | 2-3    | 3-4    |                | 1-2                        | 2-3                                      | 3-4  | 4-5  |      |           |
| 1912                                                                      | 2 345                                    | 542    | 258    | 122    | 1913           | 596                        | 251                                      | 182  | 123  |      |           |

## UNITED STATES LIFE TABLES.

TABLE 153 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR MALES IN THE STATE OF MASSACHUSETTS: 1910.

Unknown ages distributed.

| AGE INTERVAL.               |           | ESTIMATED POPULATION JULY 1, 1910. | REPORTED DEATHS. |        |        |           |
|-----------------------------|-----------|------------------------------------|------------------|--------|--------|-----------|
|                             |           |                                    | 1909             | 1910   | 1911   | 1909-1911 |
| 1                           | 2         |                                    | 3                | 4      | 5      | 6         |
| All ages.                   | 1 661 319 |                                    | 26 255           | 28 208 | 27 515 | 81 978    |
| INFANT MORTALITY BY MONTHS. |           |                                    |                  |        |        |           |
| Months.                     |           |                                    |                  |        |        |           |
| 0-1                         |           | 2 206                              | 2 298            | 2 298  | 6 802  |           |
| 1-2                         |           | 596                                | 703              | 609    | 1 908  |           |
| 2-3                         |           | 499                                | 526              | 469    | 1 494  |           |
| 3-4                         |           | 440                                | 477              | 421    | 1 338  |           |
| 4-5                         |           | 411                                | 443              | 362    | 1 216  |           |
| 5-6                         |           | 345                                | 362              | 319    | 1 026  |           |
| 6-7                         |           | 303                                | 323              | 328    | 954    |           |
| 7-8                         |           | 228                                | 328              | 252    | 808    |           |
| 8-9                         |           | 277                                | 276              | 225    | 778    |           |
| 9-10                        |           | 213                                | 264              | 242    | 719    |           |
| 10-11                       |           | 214                                | 201              | 170    | 585    |           |
| 11-12                       |           | 158                                | 207              | 154    | 519    |           |
| AGE INTERVALS OF ONE YEAR.  |           |                                    |                  |        |        |           |
| Years.                      |           |                                    |                  |        |        |           |
| 0-1                         | 35 974    | 5 890                              | 6 408            | 5 849  | 18 147 |           |
| 1-2                         | 31 693    | 1 025                              | 1 171            | 987    | 3 183  |           |
| 2-3                         | 34 235    | 448                                | 450              | 381    | 1 279  |           |
| 3-4                         | 33 601    | 280                                | 321              | 271    | 872    |           |
| 4-5                         | 31 286    | 176                                | 198              | 183    | 558    |           |
| 5-6                         | 30 623    | 145                                | 156              | 124    | 425    |           |
| 6-7                         | 30 353    | 100                                | 137              | 105    | 342    |           |
| 7-8                         | 30 535    | 98                                 | 99               | 77     | 274    |           |
| 8-9                         | 29 395    | 86                                 | 102              | 84     | 272    |           |
| 9-10                        | 28 365    | 72                                 | 89               | 72     | 233    |           |
| 10-11                       | 28 923    | 76                                 | 75               | 56     | 207    |           |
| 11-12                       | 27 306    | 78                                 | 86               | 62     | 224    |           |
| 12-13                       | 29 580    | 59                                 | 63               | 52     | 174    |           |
| 13-14                       | 28 707    | 60                                 | 61               | 58     | 179    |           |
| 14-15                       | 28 951    | 67                                 | 80               | 75     | 222    |           |
| 15-16                       | 27 454    | 66                                 | 73               | 69     | 208    |           |
| 16-17                       | 28 718    | 76                                 | 78               | 78     | 232    |           |
| 17-18                       | 28 892    | 111                                | 98               | 99     | 308    |           |
| 18-19                       | 30 810    | 135                                | 122              | 134    | 391    |           |
| 19-20                       | 30 575    | 141                                | 147              | 124    | 412    |           |
| 20-21                       | 30 680    | 133                                | 166              | 154    | 453    |           |
| 21-22                       | 31 075    | 154                                | 163              | 142    | 459    |           |
| 22-23                       | 32 191    | 153                                | 172              | 183    | 508    |           |
| 23-24                       | 31 442    | 147                                | 158              | 146    | 451    |           |
| 24-25                       | 32 293    | 153                                | 167              | 197    | 517    |           |
| 25-26                       | 33 919    | 138                                | 207              | 195    | 540    |           |
| 26-27                       | 30 814    | 162                                | 173              | 167    | 502    |           |
| 27-28                       | 29 656    | 166                                | 184              | 178    | 528    |           |
| 28-29                       | 33 343    | 178                                | 181              | 191    | 550    |           |
| 29-30                       | 27 241    | 180                                | 194              | 156    | 530    |           |
| 30-31                       | 36 278    | 197                                | 223              | 207    | 627    |           |
| 31-32                       | 22 530    | 144                                | 145              | 157    | 446    |           |
| 32-33                       | 28 412    | 200                                | 264              | 221    | 685    |           |
| 33-34                       | 25 260    | 202                                | 210              | 197    | 609    |           |
| 34-35                       | 20 683    | 205                                | 205              | 210    | 620    |           |
| 35-36                       | 33 212    | 234                                | 247              | 276    | 757    |           |
| 36-37                       | 25 522    | 215                                | 207              | 231    | 653    |           |
| 37-38                       | 23 677    | 186                                | 206              | 216    | 608    |           |
| 38-39                       | 29 616    | 283                                | 264              | 271    | 818    |           |
| 39-40                       | 23 574    | 229                                | 221              | 250    | 700    |           |
| 40-41                       | 33 309    | 289                                | 320              | 315    | 924    |           |
| 41-42                       | 18 083    | 208                                | 212              | 216    | 636    |           |
| 42-43                       | 24 816    | 231                                | 279              | 247    | 757    |           |
| 43-44                       | 20 195    | 235                                | 230              | 271    | 736    |           |
| 44-45                       | 18 731    | 200                                | 207              | 244    | 651    |           |
| 45-46                       | 25 423    | 300                                | 278              | 308    | 886    |           |
| 46-47                       | 16 909    | 223                                | 239              | 217    | 679    |           |
| 47-48                       | 16 637    | 228                                | 237              | 253    | 718    |           |
| 48-49                       | 19 867    | 262                                | 273              | 275    | 810    |           |
| 49-50                       | 17 278    | 246                                | 254              | 260    | 766    |           |

| AGE INTERVAL. | ESTIMATED POPULATION JULY 1, 1910. | REPORTED DEATHS. |       |       |           |
|---------------|------------------------------------|------------------|-------|-------|-----------|
|               |                                    | 1909             | 1910  | 1911  | 1909-1911 |
| 7             | 8                                  | 9                | 10    | 11    | 12        |
| Years.        |                                    |                  |       |       |           |
| 50-51         | 23 523                             | 296              | 379   | 376   | 1 051     |
| 51-52         | 12 606                             | 215              | 258   | 245   | 718       |
| 52-53         | 16 812                             | 292              | 331   | 308   | 931       |
| 53-54         | 13 375                             | 272              | 261   | 306   | 839       |
| 54-55         | 13 267                             | 282              | 283   | 266   | 831       |
| 55-56         | 13 780                             | 271              | 322   | 331   | 924       |
| 56-57         | 11 723                             | 282              | 289   | 272   | 843       |
| 57-58         | 10 016                             | 289              | 291   | 280   | 860       |
| 58-59         | 10 832                             | 291              | 314   | 302   | 907       |
| 59-60         | 9 652                              | 300              | 284   | 330   | 914       |
| 60-61         | 13 177                             | 401              | 415   | 422   | 1 238     |
| 61-62         | 7 254                              | 258              | 285   | 350   | 893       |
| 62-63         | 8 648                              | 320              | 374   | 338   | 1 032     |
| 63-64         | 7 950                              | 302              | 370   | 352   | 1 024     |
| 64-65         | 7 381                              | 310              | 369   | 381   | 1 060     |
| 65-66         | 9 391                              | 422              | 405   | 460   | 1 287     |
| 66-67         | 5 875                              | 306              | 319   | 356   | 981       |
| 67-68         | 5 966                              | 325              | 350   | 408   | 1 083     |
| 68-69         | 6 100                              | 365              | 407   | 379   | 1 151     |
| 69-70         | 5 326                              | 298              | 345   | 361   | 1 004     |
| 70-71         | 6 449                              | 428              | 426   | 424   | 1 278     |
| 71-72         | 3 841                              | 301              | 303   | 363   | 967       |
| 72-73         | 4 396                              | 389              | 336   | 337   | 1 062     |
| 73-74         | 3 812                              | 340              | 348   | 354   | 1 042     |
| 74-75         | 3 350                              | 296              | 301   | 361   | 958       |
| 75-76         | 3 832                              | 320              | 359   | 378   | 1 057     |
| 76-77         | 2 811                              | 312              | 321   | 278   | 911       |
| 77-78         | 2 239                              | 252              | 278   | 311   | 841       |
| 78-79         | 2 133                              | 266              | 310   | 302   | 878       |
| 79-80         | 1 778                              | 244              | 231   | 249   | 724       |
| 80-81         | 1 975                              | 258              | 277   | 261   | 796       |
| 81-82         | 1 233                              | 195              | 215   | 216   | 626       |
| 82-83         | 1 218                              | 200              | 219   | 203   | 622       |
| 83-84         | 998                                | 194              | 205   | 206   | 605       |
| 84-85         | 812                                | 149              | 157   | 183   | 489       |
| 85-86         | 682                                | 177              | 162   | 148   | 467       |
| 86-87         | 587                                | 99               | 113   | 135   | 347       |
| 87-88         | 485                                | 112              | 117   | 104   | 333       |
| 88-89         | 322                                | 88               | 80    | 99    | 267       |
| 89-90         | 274                                | 74               | 67    | 58    | 199       |
| 90-91         | 245                                | 42               | 64    | 71    | 177       |
| 91-92         | 127                                | 35               | 47    | 49    | 131       |
| 92-93         | 97                                 | 42               | 35    | 38    | 115       |
| 93-94         | 56                                 | 23               | 21    | 21    | 65        |
| 94-95         | 55                                 | 22               | 22    | 11    | 55        |
| 95-96         | 44                                 | 7                | 15    | 12    | 34        |
| 96-97         | 11                                 | 6                | 4     | 5     | 15        |
| 97-98         | 12                                 | 10               | 10    | 4     | 24        |
| 98-99         | 7                                  | 7                | 6     | 4     | 17        |
| 99-100        | 5                                  | 1                | 0     | 2     | 3         |
| 100-101       | 3                                  | 0                | 3     | 1     | 4         |
| 101-102       | 1                                  | 0                | 1     | 3     | 4         |
| 102-103       | 2                                  | 0                | 1     | 0     | 1         |
| 103-104       | 2                                  | 0                | 1     | 1     | 2         |
| 104-105       | 1                                  | 0                | 0     | 2     | 2         |
| 105-106       | 1                                  | 0                | 0     | 1     | 1         |
| 106-107       | 0                                  | 0                | 1     | ..... | 1         |
| 107-108       | 0                                  | 0                | ..... | ..... | 0         |
| 108-109       | 0                                  | 1                | ..... | ..... | 1         |
| 109-110       | 1                                  | .....            | ..... | ..... | .....     |

| NUMBER OF BIRTHS REGISTERED. |        |        |        |           |
|------------------------------|--------|--------|--------|-----------|
| CALENDAR YEAR.               | 1909   | 1910   | 1911   | 1909-1911 |
| Number of births.....        | 43 350 | 44 254 | 45 360 | 132 964   |

TABLE 154 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR FEMALES IN THE STATE OF MASSACHUSETTS: 1910.

Unknown ages distributed.

| AGE INTERVAL.               |           | ESTIMATED POPULATION JULY 1, 1910. | REPORTED DEATHS. |        |        |                              | AGE INTERVAL. |        | ESTIMATED POPULATION JULY 1, 1910. | REPORTED DEATHS. |      |       |           |
|-----------------------------|-----------|------------------------------------|------------------|--------|--------|------------------------------|---------------|--------|------------------------------------|------------------|------|-------|-----------|
| 1                           | 2         |                                    | 1909             | 1910   | 1911   | 1909-1911                    | 7             | 8      |                                    | 1909             | 1910 | 1911  | 1909-1911 |
| All ages.                   | 1 716 933 |                                    | 24 841           | 26 093 | 25 488 | 76 422                       | Years.        |        |                                    |                  |      |       |           |
| INFANT MORTALITY BY MONTHS. |           |                                    |                  |        |        | 50-51                        | 24 817        | 252    |                                    | 304              | 310  | 866   |           |
| Months.                     |           |                                    |                  |        |        | 51-52                        | 12 779        | 191    |                                    | 199              | 226  | 616   |           |
| 0-1                         | .....     | 1 573                              | 1 701            | 1 658  | 4 932  | 52-53                        | 16 606        | 215    |                                    | 227              | 243  | 685   |           |
| 1-2                         | .....     | 429                                | 502              | 418    | 1 349  | 53-54                        | 13 723        | 208    |                                    | 218              | 206  | 662   |           |
| 2-3                         | .....     | 385                                | 443              | 374    | 1 202  | 54-55                        | 14 103        | 259    |                                    | 215              | 261  | 735   |           |
| 3-4                         | .....     | 371                                | 388              | 328    | 1 087  | 55-56                        | 14 867        | 254    |                                    | 227              | 301  | 782   |           |
| 4-5                         | .....     | 307                                | 340              | 306    | 953    | 56-57                        | 12 395        | 230    |                                    | 258              | 250  | 738   |           |
| 5-6                         | .....     | 265                                | 291              | 245    | 801    | 57-58                        | 10 388        | 237    |                                    | 247              | 262  | 746   |           |
| 6-7                         | .....     | 287                                | 304              | 291    | 882    | 58-59                        | 12 091        | 280    |                                    | 288              | 322  | 890   |           |
| 7-8                         | .....     | 267                                | 231              | 231    | 729    | 59-60                        | 10 457        | 276    |                                    | 265              | 266  | 807   |           |
| 8-9                         | .....     | 223                                | 207              | 186    | 616    | 60-61                        | 15 650        | 378    |                                    | 368              | 349  | 1 095 |           |
| 9-10                        | .....     | 206                                | 206              | 206    | 618    | 61-62                        | 7 809         | 267    |                                    | 271              | 288  | 826   |           |
| 10-11                       | .....     | 178                                | 189              | 186    | 553    | 62-63                        | 9 672         | 322    |                                    | 307              | 334  | 963   |           |
| 11-12                       | .....     | 138                                | 177              | 142    | 457    | 63-64                        | 8 880         | 292    |                                    | 336              | 361  | 989   |           |
| AGE INTERVALS OF ONE YEAR.  |           |                                    |                  |        |        | 64-65                        | 8 648         | 332    |                                    | 325              | 346  | 1 003 |           |
| Years.                      |           |                                    |                  |        |        | 65-66                        | 11 243        | 387    |                                    | 460              | 466  | 1 313 |           |
| 0-1                         | 35 045    | 4 629                              | 4 979            | 4 571  | 14 179 | 66-67                        | 7 042         | 307    |                                    | 356              | 304  | 967   |           |
| 1-2                         | 30 710    | 903                                | 982              | 913    | 2 798  | 67-68                        | 7 028         | 342    |                                    | 327              | 354  | 1 023 |           |
| 2-3                         | 33 635    | 373                                | 394              | 352    | 1 119  | 68-69                        | 7 508         | 402    |                                    | 425              | 391  | 1 218 |           |
| 3-4                         | 33 146    | 212                                | 254              | 212    | 678    | 69-70                        | 6 407         | 345    |                                    | 363              | 337  | 1 045 |           |
| 4-5                         | 30 869    | 176                                | 188              | 171    | 535    | 70-71                        | 8 841         | 427    |                                    | 451              | 482  | 1 360 |           |
| 5-6                         | 29 956    | 143                                | 129              | 124    | 396    | 71-72                        | 4 566         | 291    |                                    | 321              | 340  | 955   |           |
| 6-7                         | 29 966    | 124                                | 118              | 82     | 324    | 72-73                        | 5 524         | 393    |                                    | 383              | 357  | 1 133 |           |
| 7-8                         | 29 468    | 86                                 | 106              | 84     | 276    | 73-74                        | 4 882         | 357    |                                    | 429              | 361  | 1 147 |           |
| 8-9                         | 28 925    | 78                                 | 84               | 69     | 231    | 74-75                        | 4 476         | 364    |                                    | 349              | 352  | 1 065 |           |
| 9-10                        | 28 370    | 70                                 | 74               | 58     | 202    | 75-76                        | 5 336         | 394    |                                    | 472              | 427  | 1 293 |           |
| 10-11                       | 28 923    | 62                                 | 66               | 50     | 178    | 76-77                        | 3 785         | 326    |                                    | 363              | 345  | 1 034 |           |
| 11-12                       | 27 432    | 59                                 | 42               | 66     | 167    | 77-78                        | 2 894         | 316    |                                    | 349              | 317  | 982   |           |
| 12-13                       | 29 226    | 57                                 | 60               | 50     | 167    | 78-79                        | 3 021         | 316    |                                    | 328              | 341  | 985   |           |
| 13-14                       | 28 635    | 74                                 | 58               | 68     | 200    | 79-80                        | 2 520         | 284    |                                    | 312              | 303  | 899   |           |
| 14-15                       | 28 733    | 69                                 | 88               | 68     | 225    | 80-81                        | 2 980         | 341    |                                    | 362              | 407  | 1 110 |           |
| 15-16                       | 27 902    | 58                                 | 73               | 86     | 217    | 81-82                        | 1 698         | 257    |                                    | 275              | 274  | 806   |           |
| 16-17                       | 29 817    | 87                                 | 77               | 82     | 246    | 82-83                        | 1 743         | 229    |                                    | 289              | 288  | 806   |           |
| 17-18                       | 29 709    | 92                                 | 101              | 94     | 287    | 83-84                        | 1 369         | 196    |                                    | 250              | 238  | 704   |           |
| 18-19                       | 32 593    | 110                                | 110              | 104    | 324    | 84-85                        | 1 387         | 206    |                                    | 207              | 224  | 637   |           |
| 19-20                       | 31 592    | 123                                | 125              | 125    | 373    | 85-86                        | 1 202         | 225    |                                    | 239              | 218  | 682   |           |
| 20-21                       | 31 585    | 126                                | 118              | 119    | 363    | 86-87                        | 879           | 154    |                                    | 192              | 193  | 539   |           |
| 21-22                       | 31 467    | 136                                | 107              | 128    | 371    | 87-88                        | 707           | 170    |                                    | 166              | 163  | 499   |           |
| 22-23                       | 31 502    | 171                                | 181              | 146    | 498    | 88-89                        | 569           | 138    |                                    | 141              | 128  | 407   |           |
| 23-24                       | 31 360    | 152                                | 157              | 132    | 441    | 89-90                        | 428           | 125    |                                    | 116              | 118  | 359   |           |
| 24-25                       | 34 077    | 153                                | 174              | 140    | 467    | 90-91                        | 407           | 108    |                                    | 97               | 101  | 306   |           |
| 25-26                       | 35 285    | 161                                | 154              | 178    | 493    | 91-92                        | 235           | 71     |                                    | 68               | 67   | 206   |           |
| 26-27                       | 32 346    | 171                                | 157              | 203    | 531    | 92-93                        | 171           | 49     |                                    | 58               | 67   | 174   |           |
| 27-28                       | 30 220    | 148                                | 164              | 176    | 488    | 93-94                        | 132           | 52     |                                    | 51               | 59   | 162   |           |
| 28-29                       | 34 018    | 173                                | 194              | 147    | 514    | 94-95                        | 97            | 31     |                                    | 39               | 40   | 110   |           |
| 29-30                       | 27 179    | 177                                | 167              | 186    | 530    | 95-96                        | 90            | 28     |                                    | 27               | 35   | 90    |           |
| 30-31                       | 36 968    | 191                                | 179              | 178    | 548    | 96-97                        | 43            | 28     |                                    | 12               | 23   | 63    |           |
| 31-32                       | 23 015    | 148                                | 155              | 157    | 460    | 97-98                        | 27            | 13     |                                    | 11               | 5    | 29    |           |
| 32-33                       | 29 469    | 203                                | 207              | 157    | 567    | 98-99                        | 32            | 13     |                                    | 15               | 10   | 38    |           |
| 33-34                       | 25 569    | 211                                | 170              | 161    | 542    | 99-100                       | 14            | 3      |                                    | 1                | 3    | 7     |           |
| 34-35                       | 27 654    | 183                                | 183              | 208    | 574    | 100-101                      | 14            | 2      |                                    | 7                | 4    | 13    |           |
| 35-36                       | 32 628    | 197                                | 204              | 203    | 604    | 101-102                      | 3             | 4      |                                    | 3                | 0    | 7     |           |
| 36-37                       | 26 073    | 192                                | 175              | 181    | 548    | 102-103                      | 1             | 2      |                                    | 2                | 1    | 5     |           |
| 37-38                       | 23 910    | 193                                | 212              | 193    | 598    | 103-104                      | 1             | 0      |                                    | 2                | 2    | 4     |           |
| 38-39                       | 30 410    | 255                                | 238              | 215    | 708    | 104-105                      | .....         | 1      |                                    | 1                | 1    | 3     |           |
| 39-40                       | 24 001    | 218                                | 195              | 201    | 614    | 105-106                      | .....         | 1      |                                    | 0                | 0    | 1     |           |
| 40-41                       | 33 175    | 201                                | 238              | 237    | 676    | 106-107                      | .....         | .....  |                                    | 1                | 0    | 1     |           |
| 41-42                       | 17 619    | 160                                | 165              | 162    | 487    | 107-108                      | .....         | .....  |                                    | .....            | 1    | 1     |           |
| 42-43                       | 24 889    | 219                                | 235              | 214    | 668    | 108-109                      | .....         | .....  |                                    | .....            | 1    | 1     |           |
| 43-44                       | 20 311    | 194                                | 201              | 223    | 618    | NUMBER OF BIRTHS REGISTERED. |               |        |                                    |                  |      |       |           |
| 44-45                       | 19 236    | 203                                | 201              | 222    | 626    | CALENDAR YEAR.               | 1909          | 1910   | 1911                               | 1909-1911        |      |       |           |
| 45-46                       | 24 504    | 210                                | 223              | 245    | 678    | Number of births.....        | 40 689        | 42 285 | 42 967                             | 125 941          |      |       |           |
| 46-47                       | 17 330    | 185                                | 179              | 206    | 570    |                              |               |        |                                    |                  |      |       |           |
| 47-48                       | 16 819    | 213                                | 199              | 218    | 630    |                              |               |        |                                    |                  |      |       |           |
| 48-49                       | 20 767    | 199                                | 228              | 225    | 652    |                              |               |        |                                    |                  |      |       |           |
| 49-50                       | 17 618    | 222                                | 217              | 205    | 644    |                              |               |        |                                    |                  |      |       |           |

TABLE 155

POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR MALES IN THE STATE OF MICHIGAN: 1910.

Unknown ages distributed.

| AGE<br>INTERVAL                                                           | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |        |        |                | AGE<br>INTERVAL            | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |      |      |           |
|---------------------------------------------------------------------------|------------------------------------------|------------------|--------|--------|----------------|----------------------------|------------------------------------------|------------------|------|------|-----------|
|                                                                           |                                          | 1909             | 1910   | 1911   | 1909-1911      |                            |                                          | 1909             | 1910 | 1911 | 1909-1911 |
| 1                                                                         | 2                                        | 3                | 4      | 5      | 6              | 7                          | 8                                        | 9                | 10   | 11   | 12        |
| All ages.                                                                 | 1 458 872                                | 19 622           | 21 724 | 20 855 | 62 201         | Years.                     |                                          |                  |      |      |           |
| INFANT MORTALITY BY MONTHS.                                               |                                          |                  |        |        |                | 50-51                      | 18 612                                   | 229              | 217  | 239  | 685       |
| Months.                                                                   |                                          |                  |        |        |                | 51-52                      | 12 681                                   | 142              | 141  | 181  | 467       |
| 0-1                                                                       | 1 940                                    | 1 941            | 1 931  | 5 812  |                | 52-53                      | 15 732                                   | 169              | 213  | 196  | 578       |
| 1-2                                                                       | 439                                      | 451              | 417    | 1 307  |                | 53-54                      | 13 182                                   | 138              | 216  | 211  | 565       |
| 2-3                                                                       | 324                                      | 351              | 316    | 991    |                | 54-55                      | 12 886                                   | 198              | 187  | 206  | 591       |
| 3-4                                                                       | 276                                      | 322              | 288    | 886    |                | 55-56                      | 12 787                                   | 209              | 244  | 215  | 668       |
| 4-5                                                                       | 248                                      | 270              | 221    | 739    |                | 56-57                      | 12 201                                   | 152              | 219  | 226  | 597       |
| 5-6                                                                       | 184                                      | 231              | 179    | 597    |                | 57-58                      | 10 311                                   | 177              | 191  | 223  | 591       |
| 6-7                                                                       | 161                                      | 215              | 174    | 550    |                | 58-59                      | 10 878                                   | 197              | 215  | 226  | 638       |
| 7-8                                                                       | 138                                      | 163              | 129    | 430    |                | 59-60                      | 9 817                                    | 218              | 194  | 192  | 604       |
| 8-9                                                                       | 122                                      | 165              | 134    | 421    |                | 60-61                      | 11 121                                   | 242              | 275  | 262  | 779       |
| 9-10                                                                      | 115                                      | 130              | 108    | 353    |                | 61-62                      | 7 616                                    | 207              | 225  | 239  | 671       |
| 10-11                                                                     | 110                                      | 119              | 94     | 323    |                | 62-63                      | 9 123                                    | 234              | 259  | 274  | 767       |
| 11-12                                                                     | 97                                       | 134              | 90     | 321    |                | 63-64                      | 8 493                                    | 219              | 281  | 260  | 760       |
| AGE INTERVALS OF ONE YEAR.                                                |                                          |                  |        |        |                | 64-65                      | 8 038                                    | 265              | 284  | 253  | 802       |
| Years.                                                                    |                                          |                  |        |        |                | 65-66                      | 9 009                                    | 318              | 328  | 328  | 974       |
| 0-1                                                                       | 31 550                                   | 4 154            | 4 495  | 4 081  | 12 730         | 66-67                      | 7 081                                    | 250              | 276  | 305  | 831       |
| 1-2                                                                       | 28 659                                   | 681              | 737    | 604    | 2 022          | 67-68                      | 6 085                                    | 330              | 302  | 286  | 918       |
| 2-3                                                                       | 31 148                                   | 254              | 312    | 274    | 840            | 68-69                      | 6 473                                    | 318              | 313  | 295  | 926       |
| 3-4                                                                       | 30 597                                   | 178              | 212    | 169    | 559            | 69-70                      | 5 965                                    | 274              | 327  | 287  | 888       |
| 4-5                                                                       | 29 934                                   | 132              | 175    | 139    | 446            | 70-71                      | 6 210                                    | 299              | 353  | 310  | 962       |
| 5-6                                                                       | 29 419                                   | 114              | 115    | 104    | 333            | 71-72                      | 3 029                                    | 253              | 268  | 315  | 836       |
| 6-7                                                                       | 28 843                                   | 97               | 96     | 113    | 306            | 72-73                      | 4 792                                    | 297              | 318  | 319  | 964       |
| 7-8                                                                       | 28 231                                   | 71               | 110    | 82     | 263            | 73-74                      | 4 320                                    | 301              | 373  | 344  | 1 008     |
| 8-9                                                                       | 27 297                                   | 71               | 85     | 80     | 236            | 74-75                      | 3 818                                    | 277              | 329  | 345  | 951       |
| 9-10                                                                      | 25 985                                   | 38               | 72     | 72     | 182            | 75-76                      | 3 755                                    | 307              | 355  | 320  | 982       |
| 10-11                                                                     | 26 384                                   | 69               | 74     | 75     | 218            | 76-77                      | 3 273                                    | 298              | 352  | 321  | 971       |
| 11-12                                                                     | 25 122                                   | 58               | 51     | 67     | 176            | 77-78                      | 2 691                                    | 273              | 351  | 309  | 933       |
| 12-13                                                                     | 26 800                                   | 56               | 57     | 60     | 173            | 78-79                      | 2 418                                    | 279              | 250  | 304  | 833       |
| 13-14                                                                     | 26 088                                   | 63               | 80     | 66     | 209            | 79-80                      | 2 065                                    | 262              | 283  | 283  | 828       |
| 14-15                                                                     | 26 673                                   | 60               | 67     | 81     | 208            | 80-81                      | 1 995                                    | 229              | 266  | 302  | 797       |
| 15-16                                                                     | 24 867                                   | 71               | 67     | 61     | 199            | 81-82                      | 1 311                                    | 201              | 216  | 231  | 651       |
| 16-17                                                                     | 27 688                                   | 75               | 82     | 60     | 217            | 82-83                      | 1 257                                    | 210              | 201  | 209  | 623       |
| 17-18                                                                     | 27 431                                   | 106              | 96     | 103    | 305            | 83-84                      | 1 070                                    | 195              | 222  | 195  | 612       |
| 18-19                                                                     | 28 436                                   | 114              | 130    | 121    | 365            | 84-85                      | 933                                      | 197              | 190  | 195  | 582       |
| 19-20                                                                     | 27 624                                   | 115              | 153    | 160    | 428            | 85-86                      | 797                                      | 151              | 179  | 135  | 465       |
| 20-21                                                                     | 26 916                                   | 110              | 121    | 119    | 350            | 86-87                      | 567                                      | 133              | 154  | 119  | 436       |
| 21-22                                                                     | 27 641                                   | 128              | 154    | 113    | 395            | 87-88                      | 472                                      | 97               | 112  | 140  | 349       |
| 22-23                                                                     | 27 744                                   | 153              | 175    | 159    | 487            | 88-89                      | 366                                      | 93               | 96   | 93   | 282       |
| 23-24                                                                     | 26 890                                   | 139              | 139    | 155    | 433            | 89-90                      | 279                                      | 79               | 75   | 78   | 232       |
| 24-25                                                                     | 27 541                                   | 124              | 139    | 126    | 389            | 90-91                      | 241                                      | 60               | 71   | 70   | 201       |
| 25-26                                                                     | 26 582                                   | 147              | 145    | 155    | 417            | 91-92                      | 146                                      | 41               | 56   | 47   | 144       |
| 26-27                                                                     | 26 282                                   | 120              | 154    | 115    | 389            | 92-93                      | 96                                       | 26               | 30   | 42   | 98        |
| 27-28                                                                     | 21 969                                   | 103              | 157    | 147    | 407            | 93-94                      | 72                                       | 21               | 23   | 20   | 64        |
| 28-29                                                                     | 26 080                                   | 129              | 150    | 161    | 440            | 94-95                      | 44                                       | 13               | 22   | 25   | 60        |
| 29-30                                                                     | 22 458                                   | 114              | 135    | 127    | 376            | 95-96                      | 34                                       | 14               | 13   | 15   | 42        |
| 30-31                                                                     | 26 912                                   | 120              | 139    | 132    | 391            | 96-97                      | 19                                       | 4                | 10   | 5    | 19        |
| 31-32                                                                     | 19 193                                   | 91               | 116    | 117    | 324            | 97-98                      | 16                                       | 13               | 8    | 5    | 26        |
| 32-33                                                                     | 22 111                                   | 126              | 123    | 151    | 400            | 98-99                      | 11                                       | 0                | 5    | 3    | 14        |
| 33-34                                                                     | 20 750                                   | 121              | 122    | 124    | 367            | 99-100                     | 9                                        | 5                | 5    | 3    | 13        |
| 34-35                                                                     | 21 140                                   | 114              | 133    | 113    | 360            | 100-101                    | 5                                        | 3                | 1    | 1    | 5         |
| 35-36                                                                     | 22 700                                   | 158              | 165    | 138    | 461            | 101-102                    | 3                                        | 0                | 1    | 0    | 1         |
| 36-37                                                                     | 19 972                                   | 103              | 136    | 122    | 361            | 102-103                    | 1                                        | 2                | 2    | 2    | 6         |
| 37-38                                                                     | 18 255                                   | 114              | 126    | 127    | 367            | 103-104                    | 1                                        | 0                | 1    | 0    | 1         |
| 38-39                                                                     | 21 145                                   | 124              | 130    | 167    | 421            | 104-105                    | 0                                        | 2                | 1    | 0    | 3         |
| 39-40                                                                     | 18 423                                   | 120              | 128    | 103    | 351            | 105-106                    | 4                                        | 4                | 0    | 1    | 5         |
| 40-41                                                                     | 22 930                                   | 150              | 159    | 172    | 481            | 106-107                    | 0                                        | 0                | 1    | 0    | 1         |
| 41-42                                                                     | 14 878                                   | 110              | 107    | 130    | 347            | 107-108                    | 0                                        | 0                | 1    | 0    | 1         |
| 42-43                                                                     | 19 785                                   | 126              | 146    | 142    | 414            | 108-109                    | 0                                        | 1                | 0    | 0    | 1         |
| 43-44                                                                     | 16 375                                   | 123              | 135    | 126    | 384            | 109-110                    | 0                                        | 0                | 0    | 1    | 1         |
| 44-45                                                                     | 15 576                                   | 109              | 152    | 128    | 389            | 110-111                    | 0                                        | 0                | 2    | 0    | 2         |
| 45-46                                                                     | 17 883                                   | 191              | 176    | 184    | 551            | 111-112                    | 0                                        | 0                | 0    | 0    | 0         |
| 46-47                                                                     | 14 699                                   | 121              | 160    | 131    | 415            | 112-113                    | 0                                        | 0                | 0    | 0    | 0         |
| 47-48                                                                     | 15 009                                   | 162              | 153    | 174    | 489            | 113-114                    | 0                                        | 0                | 0    | 0    | 0         |
| 48-49                                                                     | 16 025                                   | 182              | 195    | 157    | 534            | 114-115                    | 0                                        | 0                | 0    | 0    | 0         |
| 49-50                                                                     | 16 197                                   | 148              | 182    | 201    | 531            | 115-116                    | 1                                        | 0                | 0    | 0    | 0         |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                          |                  |        |        |                |                            |                                          |                  |      |      |           |
| CALENDAR YEAR.                                                            | AGE INTERVALS OF ONE YEAR.               |                  |        |        | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |                                          |                  |      |      |           |
|                                                                           | 0-1                                      | 1-2              | 2-3    | 3-4    |                | 1-2                        | 2-3                                      | 3-4              | 4-5  |      |           |
| 1912                                                                      | 4 001                                    | 580              | 281    | 187    | 1913           | 724                        | 364                                      | 253              | 165  |      |           |

TABLE 156 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR FEMALES IN THE STATE OF MICHIGAN: 1910.

Unknown ages distributed.

| AGE<br>INTERVAL.                                                          | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |        |        |                | AGE<br>INTERVAL.           | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |      |      |           |
|---------------------------------------------------------------------------|------------------------------------------|------------------|--------|--------|----------------|----------------------------|------------------------------------------|------------------|------|------|-----------|
|                                                                           |                                          | 1909             | 1910   | 1911   | 1909-1911      |                            |                                          | 1909             | 1910 | 1911 | 1909-1911 |
| 1                                                                         | 2                                        | 3                | 4      | 5      | 6              | 7                          | 8                                        | 9                | 10   | 11   | 12        |
| All ages.                                                                 | 1 359 511                                | 16 638           | 18 164 | 17 138 | 51 940         | Years.                     | 16 091                                   | 159              | 165  | 170  | 494       |
| INFANT MORTALITY BY MONTHS.                                               |                                          |                  |        |        |                | 50-51                      | 11 204                                   | 120              | 136  | 165  | 421       |
| Months.                                                                   |                                          |                  |        |        |                | 51-52                      | 13 389                                   | 148              | 170  | 140  | 458       |
| 0-1                                                                       | 1 401                                    | 1 367            | 1 407  | 4 178  |                | 52-53                      | 11 357                                   | 157              | 164  | 150  | 471       |
| 1-2                                                                       | 329                                      | 344              | 272    | 945    |                | 53-54                      | 11 333                                   | 149              | 167  | 163  | 479       |
| 2-3                                                                       | 218                                      | 314              | 236    | 798    |                | 54-55                      | 10 773                                   | 138              | 162  | 178  | 478       |
| 3-4                                                                       | 222                                      | 247              | 198    | 667    |                | 55-56                      | 10 180                                   | 139              | 176  | 168  | 483       |
| 4-5                                                                       | 192                                      | 218              | 176    | 586    |                | 56-57                      | 8 743                                    | 153              | 177  | 157  | 487       |
| 5-6                                                                       | 126                                      | 184              | 139    | 449    |                | 57-58                      | 9 339                                    | 153              | 160  | 145  | 458       |
| 6-7                                                                       | 158                                      | 153              | 126    | 437    |                | 58-59                      | 8 699                                    | 158              | 166  | 163  | 487       |
| 7-8                                                                       | 113                                      | 152              | 108    | 373    |                | 59-60                      | 10 084                                   | 182              | 194  | 190  | 566       |
| 8-9                                                                       | 114                                      | 117              | 100    | 331    |                | 60-61                      | 6 634                                    | 160              | 164  | 184  | 508       |
| 9-10                                                                      | 92                                       | 118              | 82     | 292    |                | 61-62                      | 7 925                                    | 190              | 216  | 203  | 609       |
| 10-11                                                                     | 100                                      | 91               | 83     | 274    |                | 62-63                      | 7 620                                    | 214              | 190  | 210  | 614       |
| 11-12                                                                     | 99                                       | 121              | 68     | 288    |                | 63-64                      | 7 277                                    | 230              | 219  | 191  | 640       |
| AGE INTERVALS OF ONE YEAR.                                                |                                          |                  |        |        |                | 64-65                      | 8 175                                    | 208              | 255  | 216  | 679       |
| Years.                                                                    |                                          |                  |        |        |                | 65-66                      | 6 086                                    | 227              | 257  | 243  | 727       |
| 0-1                                                                       | 30 742                                   | 3 197            | 3 426  | 2 995  | 9 618          | 66-67                      | 6 058                                    | 216              | 213  | 228  | 657       |
| 1-2                                                                       | 28 128                                   | 595              | 642    | 539    | 1 776          | 67-68                      | 5 959                                    | 237              | 263  | 241  | 741       |
| 2-3                                                                       | 29 925                                   | 245              | 302    | 245    | 792            | 68-69                      | 5 283                                    | 222              | 243  | 271  | 736       |
| 3-4                                                                       | 29 692                                   | 169              | 182    | 172    | 523            | 69-70                      | 5 669                                    | 264              | 291  | 290  | 854       |
| 4-5                                                                       | 29 342                                   | 119              | 121    | 120    | 360            | 70-71                      | 3 612                                    | 226              | 232  | 243  | 701       |
| 5-6                                                                       | 28 525                                   | 105              | 117    | 113    | 335            | 71-72                      | 4 343                                    | 270              | 281  | 271  | 822       |
| 6-7                                                                       | 28 472                                   | 94               | 103    | 73     | 270            | 72-73                      | 3 852                                    | 228              | 258  | 274  | 760       |
| 7-8                                                                       | 27 378                                   | 51               | 84     | 90     | 225            | 73-74                      | 3 534                                    | 201              | 288  | 295  | 784       |
| 8-9                                                                       | 26 653                                   | 67               | 70     | 63     | 200            | 74-75                      | 3 501                                    | 285              | 278  | 265  | 828       |
| 9-10                                                                      | 25 139                                   | 42               | 75     | 49     | 166            | 75-76                      | 3 061                                    | 280              | 319  | 254  | 833       |
| 10-11                                                                     | 25 721                                   | 51               | 55     | 45     | 151            | 76-77                      | 2 402                                    | 239              | 241  | 273  | 753       |
| 11-12                                                                     | 24 769                                   | 42               | 56     | 45     | 143            | 77-78                      | 2 273                                    | 271              | 233  | 257  | 761       |
| 12-13                                                                     | 25 932                                   | 41               | 53     | 50     | 144            | 78-79                      | 1 829                                    | 201              | 236  | 186  | 623       |
| 13-14                                                                     | 25 825                                   | 60               | 63     | 67     | 190            | 79-80                      | 1 925                                    | 216              | 251  | 237  | 704       |
| 14-15                                                                     | 25 710                                   | 57               | 71     | 69     | 197            | 80-81                      | 1 226                                    | 152              | 172  | 210  | 534       |
| 15-16                                                                     | 24 539                                   | 64               | 71     | 53     | 188            | 81-82                      | 1 229                                    | 158              | 222  | 189  | 569       |
| 16-17                                                                     | 27 279                                   | 78               | 99     | 64     | 241            | 82-83                      | 1 077                                    | 164              | 179  | 177  | 520       |
| 17-18                                                                     | 26 196                                   | 100              | 110    | 76     | 285            | 83-84                      | 848                                      | 189              | 165  | 161  | 515       |
| 18-19                                                                     | 27 983                                   | 114              | 101    | 88     | 303            | 84-85                      | 731                                      | 136              | 150  | 124  | 410       |
| 19-20                                                                     | 25 824                                   | 117              | 117    | 115    | 349            | 85-86                      | 602                                      | 107              | 132  | 123  | 362       |
| 20-21                                                                     | 27 364                                   | 115              | 139    | 140    | 394            | 86-87                      | 507                                      | 86               | 103  | 127  | 316       |
| 21-22                                                                     | 24 769                                   | 109              | 148    | 122    | 379            | 87-88                      | 373                                      | 106              | 89   | 78   | 273       |
| 22-23                                                                     | 25 947                                   | 116              | 153    | 143    | 412            | 88-89                      | 283                                      | 74               | 80   | 84   | 238       |
| 23-24                                                                     | 25 470                                   | 143              | 154    | 138    | 435            | 89-90                      | 229                                      | 66               | 68   | 70   | 204       |
| 24-25                                                                     | 25 614                                   | 139              | 144    | 129    | 412            | 90-91                      | 120                                      | 40               | 44   | 42   | 126       |
| 25-26                                                                     | 25 277                                   | 121              | 119    | 130    | 370            | 91-92                      | 108                                      | 38               | 42   | 28   | 108       |
| 26-27                                                                     | 23 818                                   | 128              | 123    | 125    | 376            | 92-93                      | 93                                       | 30               | 30   | 25   | 85        |
| 27-28                                                                     | 22 284                                   | 116              | 143    | 165    | 424            | 93-94                      | 57                                       | 20               | 19   | 28   | 67        |
| 28-29                                                                     | 23 530                                   | 103              | 138    | 146    | 387            | 94-95                      | 39                                       | 12               | 13   | 10   | 35        |
| 29-30                                                                     | 20 218                                   | 119              | 125    | 109    | 353            | 95-96                      | 30                                       | 9                | 11   | 9    | 29        |
| 30-31                                                                     | 23 936                                   | 120              | 113    | 127    | 360            | 96-97                      | 19                                       | 13               | 13   | 4    | 30        |
| 31-32                                                                     | 18 027                                   | 93               | 103    | 108    | 304            | 97-98                      | 11                                       | 2                | 4    | 8    | 14        |
| 32-33                                                                     | 21 057                                   | 128              | 112    | 154    | 394            | 98-99                      | 12                                       | 2                | 2    | 4    | 8         |
| 33-34                                                                     | 19 258                                   | 115              | 133    | 137    | 385            | 99-100                     | 5                                        | 3                | 5    | 4    | 12        |
| 34-35                                                                     | 19 212                                   | 111              | 132    | 111    | 354            | 100-101                    | 1                                        | 2                | 3    | 3    | 8         |
| 35-36                                                                     | 20 051                                   | 111              | 126    | 123    | 360            | 101-102                    | 2                                        | 0                | 1    | 1    | 2         |
| 36-37                                                                     | 18 512                                   | 126              | 115    | 139    | 380            | 102-103                    | 2                                        | 1                | 2    | 1    | 4         |
| 37-38                                                                     | 16 948                                   | 132              | 144    | 114    | 390            | 103-104                    | 4                                        | 1                | 1    | 3    | 4         |
| 38-39                                                                     | 19 174                                   | 141              | 137    | 141    | 419            | 104-105                    | 3                                        | 1                | 0    | 0    | 1         |
| 39-40                                                                     | 16 834                                   | 116              | 127    | 121    | 364            | 105-106                    | 0                                        | 0                | 0    | 0    | 0         |
| 40-41                                                                     | 20 049                                   | 122              | 139    | 116    | 377            | 106-107                    | 0                                        | 0                | 0    | 0    | 0         |
| 41-42                                                                     | 13 383                                   | 102              | 100    | 112    | 314            | 107-108                    | 2                                        | 0                | 0    | 0    | 0         |
| 42-43                                                                     | 17 686                                   | 118              | 132    | 102    | 352            | 108-109                    | 0                                        | 0                | 1    | 1    | 1         |
| 43-44                                                                     | 15 377                                   | 97               | 123    | 106    | 326            | 109-110                    | 0                                        | 0                | 0    | 0    | 0         |
| 44-45                                                                     | 14 489                                   | 82               | 105    | 127    | 314            | 110-111                    | 0                                        | 0                | 0    | 0    | 0         |
| 45-46                                                                     | 15 421                                   | 117              | 133    | 133    | 383            | 111-112                    | 1                                        | 1                | 0    | 0    | 1         |
| 46-47                                                                     | 13 685                                   | 102              | 152    | 141    | 395            | 112-113                    | 0                                        | 0                | 0    | 0    | 0         |
| 47-48                                                                     | 13 580                                   | 112              | 125    | 110    | 347            | 113-114                    | 1                                        | 0                | 0    | 0    | 0         |
| 48-49                                                                     | 15 088                                   | 145              | 154    | 156    | 455            | 114-115                    | 1                                        | 0                | 0    | 0    | 0         |
| 49-50                                                                     | 13 838                                   | 150              | 138    | 139    | 427            |                            |                                          |                  |      |      |           |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                          |                  |        |        |                |                            |                                          |                  |      |      |           |
| CALENDAR YEAR.                                                            | AGE INTERVALS OF ONE YEAR.               |                  |        |        | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |                                          |                  |      |      |           |
|                                                                           | 0-1                                      | 1-2              | 2-3    | 3-4    |                | 1-2                        | 2-3                                      | 3-4              | 4-5  |      |           |
| 1912                                                                      | 2 043                                    | 507              | 226    | 161    | 1913           | 644                        | 314                                      | 209              | 157  |      |           |

## UNITED STATES LIFE TABLES.

TABLE 157

POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR MALES IN THE STATE OF NEW JERSEY: 1910.

Unknown ages distributed.

| AGE INTERVAL.               |           | ESTIMATED POPULATION JULY 1, 1910. | REPORTED DEATHS. |        |        |           |
|-----------------------------|-----------|------------------------------------|------------------|--------|--------|-----------|
|                             |           |                                    | 1909             | 1910   | 1911   | 1909-1911 |
| 1                           | 2         |                                    | 3                | 4      | 5      | 6         |
| All ages.                   | 1 293 454 |                                    | 19 621           | 21 223 | 20 811 | 61 655    |
| INFANT MORTALITY BY MONTHS. |           |                                    |                  |        |        |           |
| Months.                     |           |                                    |                  |        |        |           |
| 0-1                         |           |                                    | 1 550            | 1 618  | 1 638  | 4 806     |
| 1-2                         |           |                                    | 375              | 458    | 398    | 1 231     |
| 2-3                         |           |                                    | 325              | 375    | 331    | 1 031     |
| 3-4                         |           |                                    | 329              | 367    | 323    | 1 019     |
| 4-5                         |           |                                    | 280              | 327    | 272    | 879       |
| 5-6                         |           |                                    | 255              | 260    | 267    | 782       |
| 6-7                         |           |                                    | 249              | 284    | 230    | 763       |
| 7-8                         |           |                                    | 210              | 252    | 223    | 685       |
| 8-9                         |           |                                    | 211              | 218    | 180    | 609       |
| 9-10                        |           |                                    | 202              | 187    | 161    | 550       |
| 10-11                       |           |                                    | 165              | 140    | 150    | 455       |
| 11-12                       |           |                                    | 166              | 165    | 134    | 465       |
| AGE INTERVALS OF ONE YEAR.  |           |                                    |                  |        |        |           |
| Years.                      |           |                                    |                  |        |        |           |
| 0-1                         | 28 658    | 4 317                              | 4 651            | 4 307  | 13 275 |           |
| 1-2                         | 24 840    | 937                                | 896              | 874    | 2 707  |           |
| 2-3                         | 28 275    | 452                                | 424              | 375    | 1 251  |           |
| 3-4                         | 27 517    | 219                                | 244              | 226    | 689    |           |
| 4-5                         | 26 513    | 182                                | 161              | 166    | 509    |           |
| 5-6                         | 25 519    | 150                                | 115              | 125    | 390    |           |
| 6-7                         | 25 291    | 92                                 | 114              | 90     | 296    |           |
| 7-8                         | 24 874    | 86                                 | 99               | 92     | 277    |           |
| 8-9                         | 23 629    | 83                                 | 68               | 83     | 234    |           |
| 9-10                        | 23 421    | 70                                 | 72               | 71     | 213    |           |
| 10-11                       | 23 992    | 52                                 | 59               | 66     | 177    |           |
| 11-12                       | 21 732    | 39                                 | 72               | 43     | 154    |           |
| 12-13                       | 21 457    | 66                                 | 49               | 50     | 165    |           |
| 13-14                       | 22 289    | 49                                 | 64               | 47     | 160    |           |
| 14-15                       | 23 181    | 63                                 | 58               | 45     | 166    |           |
| 15-16                       | 21 572    | 46                                 | 64               | 56     | 166    |           |
| 16-17                       | 23 612    | 80                                 | 58               | 60     | 198    |           |
| 17-18                       | 22 929    | 84                                 | 101              | 92     | 277    |           |
| 18-19                       | 24 326    | 88                                 | 101              | 93     | 282    |           |
| 19-20                       | 23 950    | 100                                | 137              | 127    | 361    |           |
| 20-21                       | 24 546    | 112                                | 127              | 120    | 359    |           |
| 21-22                       | 25 256    | 109                                | 130              | 148    | 387    |           |
| 22-23                       | 25 509    | 144                                | 141              | 166    | 451    |           |
| 23-24                       | 24 812    | 140                                | 145              | 149    | 434    |           |
| 24-25                       | 25 831    | 152                                | 127              | 159    | 438    |           |
| 25-26                       | 26 278    | 153                                | 145              | 156    | 454    |           |
| 26-27                       | 24 859    | 139                                | 145              | 140    | 424    |           |
| 27-28                       | 23 605    | 136                                | 155              | 157    | 448    |           |
| 28-29                       | 26 520    | 160                                | 170              | 168    | 498    |           |
| 29-30                       | 21 276    | 139                                | 131              | 158    | 428    |           |
| 30-31                       | 30 465    | 189                                | 191              | 171    | 551    |           |
| 31-32                       | 17 551    | 150                                | 146              | 145    | 441    |           |
| 32-33                       | 23 138    | 178                                | 194              | 198    | 570    |           |
| 33-34                       | 20 028    | 165                                | 183              | 155    | 503    |           |
| 34-35                       | 20 579    | 165                                | 205              | 216    | 586    |           |
| 35-36                       | 26 079    | 214                                | 211              | 257    | 712    |           |
| 36-37                       | 20 430    | 169                                | 195              | 232    | 596    |           |
| 37-38                       | 17 754    | 185                                | 216              | 188    | 589    |           |
| 38-39                       | 22 493    | 206                                | 228              | 258    | 692    |           |
| 39-40                       | 17 633    | 205                                | 213              | 186    | 604    |           |
| 40-41                       | 27 458    | 237                                | 283              | 275    | 795    |           |
| 41-42                       | 13 014    | 153                                | 171              | 182    | 506    |           |
| 42-43                       | 19 411    | 218                                | 248              | 205    | 671    |           |
| 43-44                       | 14 651    | 205                                | 214              | 217    | 636    |           |
| 44-45                       | 13 996    | 187                                | 204              | 187    | 578    |           |
| 45-46                       | 19 631    | 256                                | 247              | 271    | 774    |           |
| 46-47                       | 12 595    | 167                                | 204              | 191    | 562    |           |
| 47-48                       | 12 229    | 161                                | 197              | 210    | 577    |           |
| 48-49                       | 14 505    | 227                                | 212              | 224    | 663    |           |
| 49-50                       | 12 795    | 190                                | 228              | 178    | 596    |           |

| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                            |     |     |     |                |                            |     |     |     |
|---------------------------------------------------------------------------|----------------------------|-----|-----|-----|----------------|----------------------------|-----|-----|-----|
| CALENDAR YEAR.                                                            | AGE INTERVALS OF ONE YEAR. |     |     |     | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |     |     |     |
|                                                                           | 0-1                        | 1-2 | 2-3 | 3-4 |                | 1-2                        | 2-3 | 3-4 | 4-5 |
| 1912                                                                      | 4 179                      | 832 | 299 | 194 | 1913           | 902                        | 378 | 248 | 171 |



TABLE 158 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR FEMALES IN THE STATE OF NEW JERSEY: 1910.

Unknown ages distributed.

| AGE INTERVAL.                                                             |                            | ESTIMATED POPULATION JULY 1, 1910. | REPORTED DEATHS. |        |                |                            | AGE INTERVAL. |        | ESTIMATED POPULATION JULY 1, 1910. | REPORTED DEATHS. |      |      |           |
|---------------------------------------------------------------------------|----------------------------|------------------------------------|------------------|--------|----------------|----------------------------|---------------|--------|------------------------------------|------------------|------|------|-----------|
|                                                                           |                            |                                    | 1909             | 1910   | 1911           | 1909-1911                  |               |        |                                    | 1909             | 1910 | 1911 | 1909-1911 |
| 1                                                                         |                            | 2                                  | 3                | 4      | 5              | 6                          | 7             |        | 8                                  | 9                | 10   | 11   | 12        |
| All ages.                                                                 |                            | 1 257 500                          | 16 689           | 18 281 | 17 806         | 52 776                     | Years.        |        |                                    |                  |      |      |           |
| INFANT MORTALITY BY MONTHS.                                               |                            |                                    |                  |        |                |                            |               |        |                                    |                  |      |      |           |
| Months.                                                                   |                            |                                    |                  |        |                |                            | 50-51         | 17 524 | 163                                | 231              | 194  | 588  |           |
| 0-1                                                                       | .....                      | 1 095                              | 1 269            | 1 150  | 3 514          |                            | 51-52         | 8 118  | 115                                | 152              | 166  | 433  |           |
| 1-2                                                                       | .....                      | 286                                | 323              | 314    | 923            |                            | 52-53         | 10 831 | 144                                | 178              | 182  | 504  |           |
| 2-3                                                                       | .....                      | 269                                | 316              | 267    | 852            |                            | 53-54         | 8 779  | 145                                | 162              | 157  | 464  |           |
| 3-4                                                                       | .....                      | 249                                | 274              | 250    | 773            |                            | 54-55         | 9 161  | 151                                | 171              | 162  | 484  |           |
| 4-5                                                                       | .....                      | 216                                | 253              | 211    | 680            |                            | 55-56         | 9 622  | 173                                | 179              | 168  | 520  |           |
| 5-6                                                                       | .....                      | 205                                | 252              | 191    | 648            |                            | 56-57         | 7 894  | 158                                | 174              | 187  | 519  |           |
| 6-7                                                                       | .....                      | 190                                | 199              | 203    | 592            |                            | 57-58         | 6 396  | 161                                | 178              | 181  | 520  |           |
| 7-8                                                                       | .....                      | 192                                | 173              | 182    | 547            |                            | 58-59         | 7 470  | 149                                | 194              | 207  | 550  |           |
| 8-9                                                                       | .....                      | 167                                | 185              | 177    | 529            |                            | 59-60         | 6 346  | 148                                | 165              | 202  | 515  |           |
| 9-10                                                                      | .....                      | 175                                | 177              | 167    | 519            |                            | 60-61         | 10 662 | 203                                | 256              | 243  | 702  |           |
| 10-11                                                                     | .....                      | 153                                | 150              | 142    | 445            |                            | 61-62         | 4 677  | 152                                | 168              | 199  | 519  |           |
| 11-12                                                                     | .....                      | 142                                | 147              | 120    | 409            |                            | 62-63         | 6 059  | 197                                | 204              | 199  | 600  |           |
| AGE INTERVALS OF ONE YEAR.                                                |                            |                                    |                  |        |                |                            |               |        |                                    |                  |      |      |           |
| Years.                                                                    |                            |                                    |                  |        |                |                            | 63-64         | 5 612  | 196                                | 225              | 222  | 643  |           |
| 0-1                                                                       | 27 906                     | 3 339                              | 3 718            | 3 374  | 10 431         |                            | 64-65         | 5 369  | 220                                | 220              | 206  | 646  |           |
| 1-2                                                                       | 24 471                     | 875                                | 824              | 785    | 2 484          |                            | 65-66         | 7 133  | 266                                | 274              | 286  | 826  |           |
| 2-3                                                                       | 27 559                     | 394                                | 340              | 296    | 1 030          |                            | 66-67         | 4 200  | 198                                | 205              | 235  | 638  |           |
| 3-4                                                                       | 26 927                     | 215                                | 232              | 207    | 654            |                            | 67-68         | 4 029  | 196                                | 226              | 239  | 661  |           |
| 4-5                                                                       | 26 018                     | 170                                | 139              | 175    | 484            |                            | 68-69         | 4 554  | 235                                | 224              | 232  | 691  |           |
| 5-6                                                                       | 25 149                     | 113                                | 126              | 124    | 363            |                            | 69-70         | 3 896  | 188                                | 226              | 241  | 655  |           |
| 6-7                                                                       | 25 234                     | 98                                 | 106              | 101    | 305            |                            | 70-71         | 5 526  | 293                                | 329              | 302  | 924  |           |
| 7-8                                                                       | 24 454                     | 86                                 | 89               | 84     | 259            |                            | 71-72         | 2 557  | 162                                | 203              | 226  | 591  |           |
| 8-9                                                                       | 23 553                     | 63                                 | 70               | 63     | 196            |                            | 72-73         | 3 300  | 216                                | 222              | 234  | 672  |           |
| 9-10                                                                      | 22 737                     | 68                                 | 60               | 49     | 177            |                            | 73-74         | 2 736  | 188                                | 227              | 220  | 635  |           |
| 10-11                                                                     | 23 838                     | 64                                 | 55               | 49     | 168            |                            | 74-75         | 2 529  | 185                                | 222              | 236  | 643  |           |
| 11-12                                                                     | 21 398                     | 53                                 | 50               | 46     | 149            |                            | 75-76         | 3 027  | 249                                | 250              | 277  | 776  |           |
| 12-13                                                                     | 23 904                     | 49                                 | 60               | 44     | 153            |                            | 76-77         | 2 133  | 201                                | 190              | 208  | 599  |           |
| 13-14                                                                     | 22 106                     | 73                                 | 55               | 56     | 184            |                            | 77-78         | 1 660  | 168                                | 217              | 190  | 575  |           |
| 14-15                                                                     | 23 190                     | 50                                 | 51               | 55     | 156            |                            | 78-79         | 1 649  | 176                                | 194              | 190  | 560  |           |
| 15-16                                                                     | 22 320                     | 58                                 | 67               | 55     | 180            |                            | 79-80         | 1 291  | 170                                | 179              | 183  | 532  |           |
| 16-17                                                                     | 24 568                     | 67                                 | 79               | 58     | 204            |                            | 80-81         | 1 593  | 168                                | 192              | 230  | 590  |           |
| 17-18                                                                     | 23 682                     | 77                                 | 72               | 82     | 231            |                            | 81-82         | 839    | 117                                | 133              | 133  | 383  |           |
| 18-19                                                                     | 26 715                     | 98                                 | 99               | 99     | 296            |                            | 82-83         | 942    | 120                                | 163              | 145  | 428  |           |
| 19-20                                                                     | 24 382                     | 89                                 | 90               | 90     | 269            |                            | 83-84         | 737    | 121                                | 134              | 168  | 423  |           |
| 20-21                                                                     | 27 098                     | 98                                 | 115              | 114    | 327            |                            | 84-85         | 650    | 95                                 | 146              | 130  | 371  |           |
| 21-22                                                                     | 23 443                     | 102                                | 115              | 120    | 337            |                            | 85-86         | 588    | 107                                | 126              | 108  | 341  |           |
| 22-23                                                                     | 25 693                     | 111                                | 126              | 132    | 369            |                            | 86-87         | 445    | 93                                 | 91               | 90   | 274  |           |
| 23-24                                                                     | 25 131                     | 112                                | 129              | 124    | 365            |                            | 87-88         | 304    | 84                                 | 78               | 76   | 238  |           |
| 24-25                                                                     | 24 856                     | 140                                | 135              | 118    | 393            |                            | 88-89         | 268    | 60                                 | 66               | 82   | 206  |           |
| 25-26                                                                     | 25 724                     | 118                                | 126              | 133    | 377            |                            | 89-90         | 231    | 50                                 | 71               | 57   | 178  |           |
| 26-27                                                                     | 23 699                     | 135                                | 153              | 151    | 439            |                            | 90-91         | 196    | 45                                 | 52               | 44   | 141  |           |
| 27-28                                                                     | 21 376                     | 114                                | 129              | 100    | 343            |                            | 91-92         | 110    | 23                                 | 32               | 27   | 82   |           |
| 28-29                                                                     | 24 813                     | 133                                | 143              | 142    | 418            |                            | 92-93         | 90     | 27                                 | 38               | 23   | 88   |           |
| 29-30                                                                     | 19 565                     | 121                                | 134              | 129    | 384            |                            | 93-94         | 68     | 23                                 | 20               | 29   | 72   |           |
| 30-31                                                                     | 27 656                     | 137                                | 140              | 128    | 405            |                            | 94-95         | 55     | 15                                 | 5                | 13   | 33   |           |
| 31-32                                                                     | 15 857                     | 105                                | 128              | 128    | 361            |                            | 95-96         | 53     | 13                                 | 19               | 15   | 50   |           |
| 32-33                                                                     | 21 175                     | 127                                | 129              | 115    | 371            |                            | 96-97         | 25     | 10                                 | 7                | 10   | 27   |           |
| 33-34                                                                     | 18 727                     | 104                                | 152              | 121    | 377            |                            | 97-98         | 18     | 3                                  | 5                | 7    | 15   |           |
| 34-35                                                                     | 19 296                     | 127                                | 157              | 152    | 436            |                            | 98-99         | 12     | 6                                  | 5                | 4    | 15   |           |
| 35-36                                                                     | 23 120                     | 145                                | 179              | 186    | 510            |                            | 99-100        | 11     | 1                                  | 3                | 4    | 8    |           |
| 36-37                                                                     | 18 794                     | 115                                | 146              | 151    | 412            |                            | 100-101       | 8      | 1                                  | 2                | 2    | 5    |           |
| 37-38                                                                     | 16 652                     | 133                                | 158              | 141    | 432            |                            | 101-102       | 5      | 2                                  | 0                | 2    | 4    |           |
| 38-39                                                                     | 21 432                     | 163                                | 188              | 165    | 516            |                            | 102-103       | 2      | 0                                  | 1                | 2    | 3    |           |
| 39-40                                                                     | 16 563                     | 141                                | 145              | 134    | 420            |                            | 103-104       | 2      | 0                                  | 1                | 1    | 1    |           |
| 40-41                                                                     | 23 080                     | 134                                | 178              | 165    | 477            |                            | 104-105       | 3      | 2                                  | 0                | 0    | 2    |           |
| 41-42                                                                     | 11 833                     | 117                                | 115              | 124    | 356            |                            | 105-106       | 1      | 0                                  | 0                | 0    | 0    |           |
| 42-43                                                                     | 17 035                     | 138                                | 155              | 161    | 454            |                            | 106-107       | 1      | 0                                  | 0                | 0    | 1    |           |
| 43-44                                                                     | 13 546                     | 128                                | 139              | 134    | 401            |                            | 107-108       | 1      | 0                                  | 0                | 0    | 0    |           |
| 44-45                                                                     | 12 798                     | 119                                | 118              | 115    | 352            |                            | 108-109       | 1      | 0                                  | 0                | 0    | 0    |           |
| 45-46                                                                     | 17 178                     | 145                                | 147              | 166    | 458            |                            | 109-110       | 1      | 0                                  | 0                | 0    | 0    |           |
| 46-47                                                                     | 11 895                     | 146                                | 149              | 153    | 448            |                            | 110-111       | 1      | 0                                  | 0                | 0    | 1    |           |
| 47-48                                                                     | 11 273                     | 112                                | 126              | 122    | 360            |                            |               |        |                                    |                  |      |      |           |
| 48-49                                                                     | 13 502                     | 170                                | 141              | 160    | 471            |                            |               |        |                                    |                  |      |      |           |
| 49-50                                                                     | 11 578                     | 146                                | 168              | 152    | 466            |                            |               |        |                                    |                  |      |      |           |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                            |                                    |                  |        |                |                            |               |        |                                    |                  |      |      |           |
| CALENDAR YEAR.                                                            | AGE INTERVALS OF ONE YEAR. |                                    |                  |        | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |               |        |                                    |                  |      |      |           |
|                                                                           | 0-1                        | 1-2                                | 2-3              | 3-4    |                | 1-2                        | 2-3           | 3-4    | 4-5                                |                  |      |      |           |
| 1912                                                                      | 3 277                      | 745                                | 304              | 179    | 1913           | 779                        | 325           | 195    | 147                                |                  |      |      |           |

## UNITED STATES LIFE TABLES.

TABLE 159

POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR MALES IN THE STATE OF NEW YORK: 1910.

Unknown ages distributed.

| AGE INTERVAL.               |           | ESTIMATED POPULATION JULY 1, 1910. | REPORTED DEATHS. |        |        |           |
|-----------------------------|-----------|------------------------------------|------------------|--------|--------|-----------|
|                             |           |                                    | 1909             | 1910   | 1911   | 1909-1911 |
| 1                           | 2         |                                    | 3                | 4      | 5      | 6         |
| Allages.                    | 4 605 057 |                                    | 75 466           | 79 604 | 78 368 | 233 498   |
| INFANT MORTALITY BY MONTHS. |           |                                    |                  |        |        |           |
| Months.                     |           |                                    |                  |        |        |           |
| 0-1                         | .....     | 5 310                              | 5 604            | 5 490  | 16 404 |           |
| 1-2                         | .....     | 1 419                              | 1 535            | 1 495  | 4 449  |           |
| 2-3                         | .....     | 1 142                              | 1 301            | 1 128  | 3 571  |           |
| 3-4                         | .....     | 1 070                              | 1 035            | 940    | 3 045  |           |
| 4-5                         | .....     | 855                                | 980              | 836    | 2 671  |           |
| 5-6                         | .....     | 806                                | 847              | 730    | 2 383  |           |
| 6-7                         | .....     | 758                                | 850              | 664    | 2 272  |           |
| 7-8                         | .....     | 686                                | 713              | 639    | 2 038  |           |
| 8-9                         | .....     | 675                                | 675              | 589    | 1 939  |           |
| 9-10                        | .....     | 673                                | 640              | 536    | 1 849  |           |
| 10-11                       | .....     | 573                                | 510              | 497    | 1 580  |           |
| 11-12                       | .....     | 602                                | 544              | 496    | 1 642  |           |
| AGE INTERVALS OF ONE YEAR.  |           |                                    |                  |        |        |           |
| Years.                      |           |                                    |                  |        |        |           |
| 0-1                         | 97 764    | 14 569                             | 15 234           | 14 040 | 43 843 |           |
| 1-2                         | 86 619    | 3 523                              | 3 401            | 2 993  | 9 917  |           |
| 2-3                         | 94 229    | 1 484                              | 1 545            | 1 320  | 4 349  |           |
| 3-4                         | 90 718    | 866                                | 868              | 776    | 2 510  |           |
| 4-5                         | 86 876    | 587                                | 600              | 536    | 1 723  |           |
| 5-6                         | 83 663    | 454                                | 445              | 445    | 1 344  |           |
| 6-7                         | 83 237    | 376                                | 370              | 352    | 1 098  |           |
| 7-8                         | 82 036    | 290                                | 307              | 298    | 895    |           |
| 8-9                         | 78 449    | 236                                | 252              | 258    | 746    |           |
| 9-10                        | 77 758    | 196                                | 217              | 224    | 637    |           |
| 10-11                       | 79 986    | 213                                | 166              | 188    | 567    |           |
| 11-12                       | 74 846    | 192                                | 181              | 194    | 567    |           |
| 12-13                       | 83 071    | 186                                | 200              | 180    | 566    |           |
| 13-14                       | 78 818    | 165                                | 200              | 185    | 550    |           |
| 14-15                       | 79 393    | 188                                | 201              | 216    | 605    |           |
| 15-16                       | 73 463    | 204                                | 217              | 201    | 622    |           |
| 16-17                       | 83 238    | 240                                | 260              | 280    | 780    |           |
| 17-18                       | 81 405    | 291                                | 360              | 353    | 1 004  |           |
| 18-19                       | 88 120    | 354                                | 401              | 366    | 1 151  |           |
| 19-20                       | 85 576    | 413                                | 416              | 434    | 1 263  |           |
| 20-21                       | 88 209    | 415                                | 459              | 465    | 1 339  |           |
| 21-22                       | 91 795    | 493                                | 494              | 480    | 1 467  |           |
| 22-23                       | 94 584    | 505                                | 566              | 510    | 1 580  |           |
| 23-24                       | 93 175    | 497                                | 513              | 551    | 1 561  |           |
| 24-25                       | 95 787    | 518                                | 560              | 556    | 1 634  |           |
| 25-26                       | 97 760    | 580                                | 599              | 600    | 1 779  |           |
| 26-27                       | 92 825    | 524                                | 567              | 574    | 1 665  |           |
| 27-28                       | 86 544    | 550                                | 624              | 595    | 1 769  |           |
| 28-29                       | 97 664    | 686                                | 703              | 668    | 2 057  |           |
| 29-30                       | 78 829    | 538                                | 559              | 562    | 1 659  |           |
| 30-31                       | 107 224   | 748                                | 812              | 772    | 2 332  |           |
| 31-32                       | 63 728    | 534                                | 558              | 594    | 1 686  |           |
| 32-33                       | 82 589    | 717                                | 696              | 665    | 2 078  |           |
| 33-34                       | 72 360    | 650                                | 653              | 689    | 1 992  |           |
| 34-35                       | 73 548    | 670                                | 712              | 722    | 2 104  |           |
| 35-36                       | 89 630    | 895                                | 960              | 999    | 2 854  |           |
| 36-37                       | 71 134    | 723                                | 757              | 762    | 2 242  |           |
| 37-38                       | 64 573    | 722                                | 763              | 764    | 2 249  |           |
| 38-39                       | 78 961    | 870                                | 881              | 924    | 2 675  |           |
| 39-40                       | 63 475    | 770                                | 791              | 768    | 2 338  |           |
| 40-41                       | 92 520    | 1 073                              | 1 178            | 1 064  | 3 315  |           |
| 41-42                       | 47 266    | 633                                | 688              | 735    | 2 056  |           |
| 42-43                       | 68 050    | 860                                | 905              | 940    | 2 705  |           |
| 43-44                       | 53 576    | 756                                | 745              | 808    | 2 309  |           |
| 44-45                       | 51 249    | 693                                | 732              | 795    | 2 220  |           |
| 45-46                       | 67 782    | 1 054                              | 1 084            | 1 106  | 3 244  |           |
| 46-47                       | 47 540    | 734                                | 794              | 725    | 2 253  |           |
| 47-48                       | 45 580    | 710                                | 838              | 836    | 2 384  |           |
| 48-49                       | 53 366    | 852                                | 901              | 965    | 2 718  |           |
| 49-50                       | 46 537    | 837                                | 858              | 895    | 2 590  |           |

| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |  |                            |       |       |     |                |  |                            |       |     |     |
|---------------------------------------------------------------------------|--|----------------------------|-------|-------|-----|----------------|--|----------------------------|-------|-----|-----|
| CALENDAR YEAR.                                                            |  | AGE INTERVALS OF ONE YEAR. |       |       |     | CALENDAR YEAR. |  | AGE INTERVALS OF ONE YEAR. |       |     |     |
|                                                                           |  | 0-1                        | 1-2   | 2-3   | 3-4 |                |  | 1-2                        | 2-3   | 3-4 | 4-5 |
| 1912                                                                      |  | 13 746                     | 2 929 | 1 263 | 725 | 1913           |  | 2 973                      | 1 305 | 803 | 615 |

TABLE 160

POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR FEMALES IN THE STATE OF NEW YORK: 1910.

Unknown ages distributed.

| AGE<br>INTERVAL.                                                          | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |        |        |                | AGE<br>INTERVAL.           | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |       |       |           |
|---------------------------------------------------------------------------|------------------------------------------|------------------|--------|--------|----------------|----------------------------|------------------------------------------|------------------|-------|-------|-----------|
|                                                                           |                                          | 1909             | 1910   | 1911   | 1909-1911      |                            |                                          | 1909             | 1910  | 1911  | 1909-1911 |
| 1                                                                         | 2                                        | 3                | 4      | 5      | 6              | 7                          | 8                                        | 9                | 10    | 11    | 12        |
| All ages.                                                                 | 4 547 475                                | 64 607           | 68 014 | 67 286 | 199 907        |                            |                                          |                  |       |       |           |
| INFANT MORTALITY BY MONTHS.                                               |                                          |                  |        |        |                |                            |                                          |                  |       |       |           |
| Months.                                                                   |                                          |                  |        |        |                | Years.                     |                                          |                  |       |       |           |
| 0-1                                                                       |                                          | 4 006            | 4 199  | 4 290  | 12 495         | 50-51                      | 65 347                                   | 725              | 866   | 824   | 2 415     |
| 1-2                                                                       |                                          | 1 156            | 1 228  | 1 174  | 3 558          | 51-52                      | 39 607                                   | 521              | 554   | 611   | 1 686     |
| 2-3                                                                       |                                          | 906              | 1 034  | 896    | 2 836          | 52-53                      | 40 881                                   | 560              | 743   | 738   | 2 047     |
| 3-4                                                                       |                                          | 828              | 920    | 797    | 2 545          | 53-54                      | 33 213                                   | 558              | 598   | 619   | 1 755     |
| 4-5                                                                       |                                          | 717              | 749    | 677    | 2 173          | 54-55                      | 34 681                                   | 634              | 649   | 680   | 1 963     |
| 5-6                                                                       |                                          | 653              | 744    | 567    | 1 964          | 55-56                      | 37 142                                   | 655              | 742   | 779   | 2 176     |
| 6-7                                                                       |                                          | 608              | 701    | 608    | 1 917          | 56-57                      | 30 710                                   | 583              | 691   | 694   | 1 968     |
| 7-8                                                                       |                                          | 580              | 590    | 501    | 1 671          | 57-58                      | 25 564                                   | 596              | 611   | 691   | 1 898     |
| 8-9                                                                       |                                          | 580              | 606    | 518    | 1 704          | 58-59                      | 29 014                                   | 740              | 724   | 760   | 2 224     |
| 9-10                                                                      |                                          | 574              | 512    | 485    | 1 571          | 59-60                      | 24 131                                   | 691              | 666   | 677   | 2 034     |
| 10-11                                                                     |                                          | 482              | 500    | 451    | 1 433          | 60-61                      | 40 486                                   | 999              | 1 017 | 1 037 | 3 033     |
| 11-12                                                                     |                                          | 496              | 494    | 405    | 1 395          | 61-62                      | 18 026                                   | 639              | 640   | 776   | 2 055     |
| AGE INTERVALS OF ONE YEAR.                                                |                                          |                  |        |        |                |                            |                                          |                  |       |       |           |
| Years.                                                                    |                                          |                  |        |        |                | 62-63                      | 23 335                                   | 747              | 865   | 963   | 2 475     |
| 0-1                                                                       | 94 699                                   | 11 616           | 12 277 | 11 369 | 35 262         | 63-64                      | 20 708                                   | 810              | 778   | 855   | 2 443     |
| 1-2                                                                       | 84 375                                   | 3 223            | 3 053  | 2 630  | 8 906          | 64-65                      | 20 535                                   | 839              | 821   | 766   | 2 426     |
| 2-3                                                                       | 92 605                                   | 1 242            | 1 355  | 1 151  | 3 778          | 65-66                      | 26 990                                   | 996              | 1 152 | 1 093 | 3 241     |
| 3-4                                                                       | 89 965                                   | 502              | 569    | 739    | 2 410          | 66-67                      | 16 697                                   | 771              | 782   | 792   | 2 345     |
| 4-5                                                                       | 85 237                                   | 533              | 541    | 502    | 1 576          | 67-68                      | 16 151                                   | 798              | 876   | 946   | 2 620     |
| 5-6                                                                       | 82 897                                   | 424              | 447    | 370    | 1 241          | 68-69                      | 17 270                                   | 900              | 885   | 961   | 2 746     |
| 6-7                                                                       | 82 561                                   | 356              | 381    | 322    | 1 059          | 69-70                      | 14 023                                   | 829              | 832   | 884   | 2 545     |
| 7-8                                                                       | 81 156                                   | 252              | 321    | 285    | 855            | 70-71                      | 20 642                                   | 1 080            | 1 211 | 1 242 | 3 533     |
| 8-9                                                                       | 79 032                                   | 212              | 217    | 211    | 660            | 71-72                      | 9 965                                    | 700              | 773   | 843   | 2 316     |
| 9-10                                                                      | 75 939                                   | 177              | 155    | 154    | 510            | 72-73                      | 12 524                                   | 849              | 933   | 956   | 2 738     |
| 10-11                                                                     | 79 318                                   | 167              | 179    | 161    | 507            | 73-74                      | 10 769                                   | 840              | 878   | 893   | 2 611     |
| 11-12                                                                     | 74 646                                   | 144              | 149    | 155    | 448            | 74-75                      | 9 872                                    | 762              | 861   | 816   | 2 439     |
| 12-13                                                                     | 82 440                                   | 152              | 188    | 156    | 496            | 75-76                      | 11 491                                   | 967              | 963   | 997   | 2 927     |
| 13-14                                                                     | 78 448                                   | 173              | 184    | 185    | 542            | 76-77                      | 8 948                                    | 815              | 907   | 885   | 2 610     |
| 14-15                                                                     | 78 803                                   | 173              | 240    | 189    | 602            | 77-78                      | 6 586                                    | 675              | 734   | 828   | 2 237     |
| 15-16                                                                     | 75 726                                   | 188              | 212    | 224    | 624            | 78-79                      | 6 553                                    | 718              | 729   | 854   | 2 301     |
| 16-17                                                                     | 87 100                                   | 247              | 234    | 229    | 710            | 79-80                      | 5 308                                    | 703              | 716   | 685   | 2 104     |
| 17-18                                                                     | 84 969                                   | 277              | 286    | 287    | 850            | 80-81                      | 6 411                                    | 772              | 843   | 833   | 2 448     |
| 18-19                                                                     | 96 774                                   | 331              | 351    | 332    | 1 014          | 81-82                      | 3 505                                    | 514              | 569   | 628   | 1 711     |
| 19-20                                                                     | 91 349                                   | 332              | 344    | 373    | 1 049          | 82-83                      | 3 614                                    | 563              | 631   | 649   | 1 843     |
| 20-21                                                                     | 101 256                                  | 353              | 391    | 392    | 1 136          | 83-84                      | 3 048                                    | 501              | 542   | 574   | 1 617     |
| 21-22                                                                     | 88 962                                   | 394              | 408    | 423    | 1 225          | 84-85                      | 2 828                                    | 471              | 539   | 539   | 1 549     |
| 22-23                                                                     | 99 025                                   | 445              | 450    | 455    | 1 350          | 85-86                      | 2 415                                    | 429              | 493   | 473   | 1 395     |
| 23-24                                                                     | 96 127                                   | 458              | 490    | 485    | 1 433          | 86-87                      | 1 753                                    | 413              | 386   | 443   | 1 242     |
| 24-25                                                                     | 96 136                                   | 475              | 524    | 516    | 1 515          | 87-88                      | 1 471                                    | 334              | 372   | 359   | 1 065     |
| 25-26                                                                     | 97 984                                   | 511              | 488    | 497    | 1 496          | 88-89                      | 1 148                                    | 257              | 276   | 276   | 809       |
| 26-27                                                                     | 88 654                                   | 503              | 507    | 478    | 1 488          | 89-90                      | 947                                      | 231              | 242   | 268   | 741       |
| 27-28                                                                     | 79 981                                   | 433              | 513    | 488    | 1 434          | 90-91                      | 842                                      | 218              | 256   | 233   | 707       |
| 28-29                                                                     | 92 364                                   | 537              | 540    | 524    | 1 601          | 91-92                      | 434                                      | 147              | 141   | 135   | 423       |
| 29-30                                                                     | 72 217                                   | 487              | 491    | 453    | 1 431          | 92-93                      | 363                                      | 107              | 116   | 112   | 335       |
| 30-31                                                                     | 101 892                                  | 554              | 592    | 544    | 1 690          | 93-94                      | 271                                      | 68               | 80    | 98    | 216       |
| 31-32                                                                     | 57 567                                   | 430              | 398    | 428    | 1 256          | 94-95                      | 172                                      | 72               | 68    | 75    | 215       |
| 32-33                                                                     | 77 536                                   | 556              | 560    | 576    | 1 652          | 95-96                      | 159                                      | 63               | 48    | 60    | 171       |
| 33-34                                                                     | 66 730                                   | 484              | 513    | 502    | 1 499          | 96-97                      | 96                                       | 43               | 39    | 38    | 120       |
| 34-35                                                                     | 69 261                                   | 486              | 532    | 535    | 1 553          | 97-98                      | 49                                       | 38               | 25    | 29    | 92        |
| 35-36                                                                     | 84 000                                   | 581              | 589    | 697    | 1 867          | 98-99                      | 43                                       | 18               | 25    | 17    | 60        |
| 36-37                                                                     | 67 899                                   | 539              | 546    | 586    | 1 671          | 99-100                     | 31                                       | 12               | 9     | 10    | 31        |
| 37-38                                                                     | 60 477                                   | 496              | 471    | 545    | 1 512          | 100-101                    | 29                                       | 13               | 16    | 14    | 43        |
| 38-39                                                                     | 76 748                                   | 645              | 612    | 683    | 1 940          | 101-102                    | 8                                        | 3                | 8     | 4     | 15        |
| 39-40                                                                     | 59 384                                   | 581              | 529    | 544    | 1 654          | 102-103                    | 6                                        | 1                | 9     | 1     | 11        |
| 40-41                                                                     | 87 272                                   | 699              | 732    | 674    | 2 105          | 103-104                    | 4                                        | 1                | 3     | 4     | 8         |
| 41-42                                                                     | 42 851                                   | 416              | 474    | 483    | 1 373          | 104-105                    | 3                                        | 2                | 1     | 1     | 4         |
| 42-43                                                                     | 62 672                                   | 598              | 591    | 632    | 1 821          | 105-106                    | 3                                        | 1                | 4     | 0     | 5         |
| 43-44                                                                     | 50 082                                   | 500              | 525    | 531    | 1 556          | 106-107                    | 4                                        | 2                | 1     | 1     | 4         |
| 44-45                                                                     | 47 959                                   | 467              | 540    | 537    | 1 544          | 107-108                    | 1                                        | 1                | 1     | 2     | 4         |
| 45-46                                                                     | 62 758                                   | 648              | 650    | 725    | 2 033          | 108-109                    | 0                                        | 5                | 1     | 0     | 6         |
| 46-47                                                                     | 44 821                                   | 534              | 525    | 561    | 1 620          | 109-110                    | 1                                        | 1                | 0     | 0     | 1         |
| 47-48                                                                     | 42 092                                   | 524              | 595    | 536    | 1 675          | 110-111                    | 3                                        | 1                | 1     | 0     | 2         |
| 48-49                                                                     | 52 446                                   | 661              | 668    | 676    | 2 005          | 111-112                    | 0                                        | 1                | 0     | 0     | 1         |
| 49-50                                                                     | 43 346                                   | 578              | 573    | 584    | 1 735          | 112-113                    | 0                                        |                  | 1     | 0     | 2         |
|                                                                           |                                          |                  |        |        |                | 113-114                    | 0                                        |                  |       | 0     | 1         |
|                                                                           |                                          |                  |        |        |                | 114-115                    | 0                                        |                  |       | 0     |           |
|                                                                           |                                          |                  |        |        |                | 115-116                    | 1                                        |                  |       | 0     |           |
|                                                                           |                                          |                  |        |        |                | 117-118                    |                                          |                  |       | 1     | 1         |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                          |                  |        |        |                |                            |                                          |                  |       |       |           |
| CALENDAR YEAR.                                                            | AGE INTERVALS OF ONE YEAR.               |                  |        |        | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |                                          |                  |       |       |           |
|                                                                           | 0-1                                      | 1-2              | 2-3    | 3-4    |                | 1-2                        | 2-3                                      | 3-4              | 4-5   |       |           |
| 1912                                                                      | 10 990                                   | 2 508            | 1 083  | 659    | 1913           | 2 577                      | 1 161                                    | 734              | 534   |       |           |

## UNITED STATES LIFE TABLES.

TABLE 161 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR MALES IN THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

| AGE INTERVAL.                                                             | ESTIMATED POPULATION JULY 1, 1900. | REPORTED DEATHS. |         |                   |                        | AGE INTERVAL.  | ESTIMATED POPULATION JULY 1, 1900. | REPORTED DEATHS. |       |       |           |
|---------------------------------------------------------------------------|------------------------------------|------------------|---------|-------------------|------------------------|----------------|------------------------------------|------------------|-------|-------|-----------|
|                                                                           |                                    | 1900             | 1901    | 1902 <sup>1</sup> | 1900-1902 <sup>1</sup> |                |                                    | 1900             | 1901  | 1902  | 1900-1902 |
| 1                                                                         | 2                                  | 3                | 4       | 5                 | 6                      | 7              | 8                                  | 9                | 10    | 11    | 12        |
| All ages.                                                                 | 10 004 734                         | 179 016          | 174 867 | 168 639           | 522 522                | Years.         |                                    |                  |       |       |           |
| INFANT MORTALITY BY MONTHS.                                               |                                    |                  |         |                   |                        | 50-51          | 126 902                            | 1 993            | 2 047 | 1 932 | 5 972     |
| Months.                                                                   |                                    |                  |         |                   |                        | 51-52          | 76 301                             | 1 263            | 1 448 | 1 336 | 4 047     |
| 0-1                                                                       |                                    | 13 262           | 12 122  |                   | 25 684                 | 52-53          | 88 315                             | 1 612            | 1 714 | 1 713 | 5 039     |
| 1-2                                                                       |                                    | 3 526            | 3 192   |                   | 6 718                  | 53-54          | 77 022                             | 1 502            | 1 545 | 1 570 | 4 617     |
| 2-3                                                                       |                                    | 3 319            | 2 865   |                   | 6 184                  | 54-55          | 77 933                             | 1 596            | 1 552 | 1 552 | 4 700     |
| 3-4                                                                       |                                    | 3 113            | 2 752   |                   | 5 865                  | 55-56          | 86 214                             | 1 911            | 1 832 | 1 696 | 5 439     |
| 4-5                                                                       |                                    | 2 788            | 2 349   |                   | 5 177                  | 56-57          | 72 507                             | 1 762            | 1 790 | 1 676 | 5 228     |
| 5-6                                                                       |                                    | 2 581            | 2 205   |                   | 4 787                  | 57-58          | 62 788                             | 1 633            | 1 658 | 1 710 | 5 001     |
| 6-7                                                                       |                                    | 2 427            | 2 068   |                   | 4 495                  | 58-59          | 62 452                             | 1 692            | 1 801 | 1 772 | 5 265     |
| 7-8                                                                       |                                    | 2 078            | 1 746   |                   | 3 824                  | 59-60          | 59 365                             | 1 513            | 1 720 | 1 642 | 4 875     |
| 8-9                                                                       |                                    | 1 959            | 1 630   |                   | 3 589                  | 60-61          | 80 225                             | 2 217            | 2 341 | 2 155 | 6 743     |
| 9-10                                                                      |                                    | 1 755            | 1 472   |                   | 3 227                  | 61-62          | 45 411                             | 1 509            | 1 762 | 1 559 | 4 830     |
| 10-11                                                                     |                                    | 1 546            | 1 270   |                   | 2 816                  | 62-63          | 52 840                             | 1 799            | 1 890 | 1 995 | 5 684     |
| 11-12                                                                     |                                    | 1 419            | 1 210   |                   | 2 629                  | 63-64          | 51 212                             | 1 876            | 1 881 | 1 855 | 5 615     |
| AGE INTERVALS OF ONE YEAR.                                                |                                    |                  |         |                   |                        | 64-65          | 47 039                             | 1 912            | 1 909 | 1 835 | 5 646     |
| Years.                                                                    |                                    |                  |         |                   |                        | 65-66          | 52 949                             | 2 302            | 2 347 | 2 341 | 6 993     |
| 0-1                                                                       | 222 062                            | 39 773           | 35 222  | 35 079            | 110 074                | 66-67          | 40 880                             | 1 838            | 1 932 | 1 765 | 5 535     |
| 1-2                                                                       | 199 431                            | 8 953            | 7 683   | 7 627             | 24 263                 | 67-68          | 39 860                             | 2 013            | 1 978 | 1 951 | 5 942     |
| 2-3                                                                       | 208 491                            | 3 877            | 3 330   | 3 365             | 10 572                 | 68-69          | 35 828                             | 2 072            | 2 162 | 2 032 | 6 266     |
| 3-4                                                                       | 210 581                            | 2 446            | 2 146   | 1 992             | 6 584                  | 69-70          | 32 558                             | 1 944            | 1 982 | 1 926 | 5 852     |
| 4-5                                                                       | 207 922                            | 1 693            | 1 639   | 1 546             | 4 878                  | 70-71          | 40 277                             | 2 447            | 2 336 | 2 233 | 7 016     |
| 5-6                                                                       | 203 896                            | 1 339            | 1 224   | 1 204             | 3 767                  | 71-72          | 25 630                             | 1 736            | 1 931 | 1 705 | 5 372     |
| 6-7                                                                       | 203 883                            | 1 107            | 1 091   | 1 034             | 3 232                  | 72-73          | 28 253                             | 2 075            | 2 010 | 2 202 | 6 286     |
| 7-8                                                                       | 202 314                            | 897              | 822     | 783               | 2 512                  | 73-74          | 21 865                             | 1 996            | 2 019 | 1 947 | 5 962     |
| 8-9                                                                       | 198 093                            | 735              | 716     | 680               | 2 131                  | 74-75          | 22 291                             | 2 013            | 2 000 | 2 001 | 6 014     |
| 9-10                                                                      | 191 568                            | 629              | 577     | 567               | 1 773                  | 75-76          | 23 591                             | 2 201            | 2 195 | 1 956 | 6 352     |
| 10-11                                                                     | 194 109                            | 558              | 584     | 557               | 1 699                  | 76-77          | 18 674                             | 1 992            | 1 950 | 1 800 | 5 832     |
| 11-12                                                                     | 181 064                            | 528              | 534     | 475               | 1 537                  | 77-78          | 15 916                             | 1 728            | 1 724 | 1 770 | 5 222     |
| 12-13                                                                     | 183 015                            | 498              | 458     | 428               | 1 384                  | 78-79          | 11 699                             | 1 867            | 1 829 | 1 805 | 5 501     |
| 13-14                                                                     | 175 459                            | 530              | 519     | 470               | 1 519                  | 79-80          | 12 489                             | 1 601            | 1 653 | 1 557 | 4 811     |
| 14-15                                                                     | 181 625                            | 544              | 557     | 481               | 1 582                  | 80-81          | 12 731                             | 1 822            | 1 755 | 1 675 | 5 252     |
| 15-16                                                                     | 178 489                            | 606              | 586     | 517               | 1 709                  | 81-82          | 8 785                              | 1 347            | 1 490 | 1 227 | 4 061     |
| 16-17                                                                     | 181 505                            | 757              | 688     | 677               | 2 122                  | 82-83          | 7 544                              | 1 362            | 1 521 | 1 446 | 4 329     |
| 17-18                                                                     | 175 582                            | 851              | 875     | 763               | 2 489                  | 83-84          | 6 054                              | 1 151            | 1 290 | 1 202 | 3 643     |
| 18-19                                                                     | 177 416                            | 980              | 955     | 947               | 2 882                  | 84-85          | 5 404                              | 1 140            | 1 143 | 1 027 | 3 310     |
| 19-20                                                                     | 172 879                            | 1 111            | 1 065   | 999               | 3 175                  | 85-86          | 4 442                              | 955              | 978   | 875   | 2 808     |
| 20-21                                                                     | 179 142                            | 1 113            | 1 130   | 1 098             | 3 341                  | 86-87          | 3 043                              | 770              | 822   | 732   | 2 324     |
| 21-22                                                                     | 181 728                            | 1 254            | 1 138   | 1 138             | 3 530                  | 87-88          | 2 688                              | 666              | 609   | 659   | 1 934     |
| 22-23                                                                     | 183 452                            | 1 295            | 1 274   | 1 215             | 3 784                  | 88-89          | 2 062                              | 553              | 544   | 482   | 1 579     |
| 23-24                                                                     | 184 720                            | 1 312            | 1 332   | 1 245             | 3 889                  | 89-90          | 1 497                              | 450              | 454   | 402   | 1 306     |
| 24-25                                                                     | 191 030                            | 1 465            | 1 341   | 1 231             | 4 040                  | 90-91          | 1 207                              | 376              | 376   | 378   | 1 130     |
| 25-26                                                                     | 191 454                            | 1 421            | 1 503   | 1 310             | 4 234                  | 91-92          | 697                                | 251              | 235   | 236   | 722       |
| 26-27                                                                     | 180 889                            | 1 403            | 1 401   | 1 321             | 4 125                  | 92-93          | 488                                | 174              | 205   | 190   | 569       |
| 27-28                                                                     | 181 847                            | 1 445            | 1 440   | 1 316             | 4 201                  | 93-94          | 369                                | 136              | 129   | 141   | 406       |
| 28-29                                                                     | 190 499                            | 1 524            | 1 669   | 1 518             | 4 711                  | 94-95          | 233                                | 105              | 110   | 102   | 317       |
| 29-30                                                                     | 168 311                            | 1 406            | 1 364   | 1 285             | 4 055                  | 95-96          | 220                                | 75               | 72    | 91    | 238       |
| 30-31                                                                     | 216 735                            | 1 708            | 1 687   | 1 640             | 5 035                  | 96-97          | 126                                | 63               | 50    | 51    | 164       |
| 31-32                                                                     | 141 930                            | 1 178            | 1 385   | 1 169             | 3 732                  | 97-98          | 86                                 | 30               | 34    | 40    | 104       |
| 32-33                                                                     | 168 595                            | 1 590            | 1 533   | 1 581             | 4 701                  | 98-99          | 68                                 | 23               | 35    | 26    | 84        |
| 33-34                                                                     | 155 315                            | 1 455            | 1 446   | 1 408             | 4 309                  | 99-100         | 52                                 | 29               | 24    | 21    | 74        |
| 34-35                                                                     | 152 960                            | 1 351            | 1 420   | 1 333             | 4 107                  | 100-101        |                                    | 24               | 26    | 18    | 68        |
| 35-36                                                                     | 177 352                            | 1 762            | 1 905   | 1 771             | 5 438                  | 101-102        |                                    | 4                | 14    | 8     | 26        |
| 36-37                                                                     | 143 674                            | 1 416            | 1 453   | 1 455             | 4 324                  | 102-103        |                                    | 6                | 6     | 11    | 26        |
| 37-38                                                                     | 136 526                            | 1 367            | 1 397   | 1 357             | 4 121                  | 103-104        |                                    | 5                | 3     | 5     | 13        |
| 38-39                                                                     | 158 391                            | 1 739            | 1 649   | 1 635             | 5 023                  | 104-105        |                                    | 6                | 4     | 4     | 14        |
| 39-40                                                                     | 143 607                            | 1 418            | 1 426   | 1 313             | 4 157                  | 105-106        |                                    | 2                | 4     | 1     | 7         |
| 40-41                                                                     | 182 431                            | 1 934            | 2 143   | 1 900             | 6 027                  | 106-107        |                                    | 1                | 1     | 0     | 2         |
| 41-42                                                                     | 109 420                            | 1 199            | 1 367   | 1 244             | 3 810                  | 107-108        |                                    | 3                | 3     | 0     | 6         |
| 42-43                                                                     | 133 154                            | 1 591            | 1 657   | 1 756             | 5 007                  | 108-109        |                                    | 0                | 1     | 1     | 2         |
| 43-44                                                                     | 112 949                            | 1 400            | 1 438   | 1 397             | 4 235                  | 109-110        |                                    | 0                | 1     | 0     | 1         |
| 44-45                                                                     | 110 526                            | 1 335            | 1 389   | 1 372             | 4 096                  | 110-111        |                                    | 2                | 3     | 0     | 5         |
| 45-46                                                                     | 132 328                            | 1 755            | 1 974   | 1 828             | 5 557                  | 111-112        |                                    | 0                | 1     | 2     | 3         |
| 46-47                                                                     | 97 087                             | 1 290            | 1 371   | 1 284             | 3 945                  | 112-113        |                                    | 0                | 0     | 0     | 0         |
| 47-48                                                                     | 91 808                             | 1 261            | 1 368   | 1 381             | 4 010                  | 113-114        |                                    | 0                | 0     | 0     | 0         |
| 48-49                                                                     | 100 771                            | 1 493            | 1 552   | 1 496             | 4 541                  | 114-115        |                                    | 0                | 0     | 1     | 1         |
| 49-50                                                                     | 95 137                             | 1 461            | 1 407   | 1 301             | 4 169                  | 115-116        |                                    | 1                | 0     | 0     | 1         |
|                                                                           |                                    |                  |         |                   |                        | 116-117        |                                    |                  | 0     | 1     | 1         |
|                                                                           |                                    |                  |         |                   |                        | 118-120        |                                    |                  | 1     |       | 1         |
|                                                                           |                                    |                  |         |                   |                        | 120-129        |                                    |                  | 1     |       | 1         |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                    |                  |         |                   |                        |                |                                    |                  |       |       |           |
| CALENDAR YEAR.                                                            | AGE INTERVALS OF ONE YEAR.         |                  |         |                   |                        | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR.         |                  |       |       |           |
|                                                                           | 0-1                                | 1-2              | 2-3     | 3-4               | 4-5                    |                | 0-1                                | 1-2              | 2-3   | 3-4   | 4-5       |
| 1903                                                                      | 31 093                             | 7 087            | 3 168   | 2 083             | 1 355                  | 1905           |                                    |                  | 3 182 | 1 946 | 1 405     |
| 1904                                                                      |                                    | 7 473            | 3 310   | 2 109             | 1 597                  | 1906           |                                    |                  |       | 2 076 | 1 476     |

<sup>1</sup>Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in column 6 include only those in 1900 and 1901.

TABLE 162 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

## LIFE TABLE FOR FEMALES IN THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

| AGE INTERVAL.                                                             | ESTIMATED POPULATION JULY 1, 1900. | REPORTED DEATHS. |         |                   |                        | AGE INTERVAL.  | ESTIMATED POPULATION JULY 1, 1900. | REPORTED DEATHS. |       |       |           |
|---------------------------------------------------------------------------|------------------------------------|------------------|---------|-------------------|------------------------|----------------|------------------------------------|------------------|-------|-------|-----------|
|                                                                           |                                    | 1900             | 1901    | 1902 <sup>1</sup> | 1900-1902 <sup>1</sup> |                |                                    | 1900             | 1901  | 1902  | 1900-1902 |
| 1                                                                         | 2                                  | 3                | 4       | 5                 | 6                      | 7              | 8                                  | 9                | 10    | 11    | 12        |
| All ages.                                                                 | 9 990 458                          | 164 201          | 157 336 | 149 097           | 471 534                | Years.         |                                    |                  |       |       |           |
| INFANT MORTALITY BY MONTHS.                                               |                                    |                  |         |                   |                        | 50-51          | 123 439                            | 1 617            | 1 681 | 1 494 | 4 792     |
| Months.                                                                   |                                    |                  |         |                   |                        | 51-52          | 72 619                             | 1 077            | 1 258 | 1 119 | 3 454     |
| 0-1                                                                       |                                    | 9 694            | 9 120   |                   | 18 814                 | 52-53          | 83 342                             | 1 481            | 1 430 | 1 417 | 4 328     |
| 1-2                                                                       |                                    | 2 811            | 2 398   |                   | 5 209                  | 53-54          | 74 014                             | 1 338            | 1 353 | 1 290 | 3 921     |
| 2-3                                                                       |                                    | 2 647            | 2 326   |                   | 4 973                  | 54-55          | 76 735                             | 1 457            | 1 378 | 1 345 | 4 180     |
| 3-4                                                                       |                                    | 2 559            | 2 180   |                   | 4 739                  | 55-56          | 85 845                             | 1 609            | 1 582 | 1 384 | 4 575     |
| 4-5                                                                       |                                    | 2 294            | 1 986   |                   | 4 280                  | 56-57          | 71 234                             | 1 552            | 1 620 | 1 463 | 4 575     |
| 5-6                                                                       |                                    | 2 091            | 1 738   |                   | 3 829                  | 57-58          | 62 736                             | 1 429            | 1 426 | 1 470 | 4 325     |
| 6-7                                                                       |                                    | 2 011            | 1 734   |                   | 3 745                  | 58-59          | 64 003                             | 1 591            | 1 606 | 1 527 | 4 724     |
| 7-8                                                                       |                                    | 1 712            | 1 437   |                   | 3 149                  | 59-60          | 60 821                             | 1 466            | 1 404 | 1 357 | 4 227     |
| 8-9                                                                       |                                    | 1 669            | 1 373   |                   | 3 042                  | 60-61          | 85 773                             | 2 063            | 2 150 | 1 984 | 6 197     |
| 9-10                                                                      |                                    | 1 474            | 1 292   |                   | 2 766                  | 61-62          | 46 156                             | 1 384            | 1 535 | 1 359 | 4 298     |
| 10-11                                                                     |                                    | 1 314            | 1 148   |                   | 2 462                  | 62-63          | 54 396                             | 1 688            | 1 762 | 1 774 | 5 224     |
| 11-12                                                                     |                                    | 1 310            | 1 060   |                   | 2 373                  | 63-64          | 52 217                             | 1 747            | 1 831 | 1 862 | 5 140     |
| AGE INTERVALS OF ONE YEAR.                                                |                                    |                  |         |                   |                        | 64-65          | 49 539                             | 1 796            | 1 767 | 1 708 | 5 271     |
| Years.                                                                    |                                    |                  |         |                   |                        | 65-66          | 57 148                             | 2 138            | 2 207 | 2 082 | 6 427     |
| 0-1                                                                       | 217 328                            | 31 589           | 27 792  | 27 781            | 87 162                 | 66-67          | 42 842                             | 1 695            | 1 754 | 1 669 | 5 118     |
| 1-2                                                                       | 195 974                            | 7 970            | 6 764   | 6 791             | 21 525                 | 67-68          | 40 749                             | 1 874            | 1 836 | 1 748 | 5 458     |
| 2-3                                                                       | 205 363                            | 3 587            | 3 028   | 3 180             | 9 795                  | 68-69          | 38 471                             | 1 968            | 2 051 | 1 887 | 5 906     |
| 3-4                                                                       | 207 568                            | 2 261            | 2 006   | 1 933             | 6 200                  | 69-70          | 34 806                             | 1 794            | 1 810 | 1 729 | 5 333     |
| 4-5                                                                       | 205 014                            | 1 735            | 1 533   | 1 419             | 4 687                  | 70-71          | 44 331                             | 2 471            | 2 479 | 2 323 | 7 273     |
| 5-6                                                                       | 202 153                            | 1 380            | 1 125   | 1 188             | 3 703                  | 71-72          | 25 713                             | 1 644            | 1 768 | 1 638 | 5 050     |
| 6-7                                                                       | 203 008                            | 1 054            | 890     | 890               | 2 970                  | 72-73          | 29 111                             | 2 027            | 1 925 | 2 022 | 5 974     |
| 7-8                                                                       | 198 875                            | 837              | 817     | 730               | 2 384                  | 73-74          | 25 358                             | 1 899            | 1 935 | 1 745 | 5 579     |
| 8-9                                                                       | 196 172                            | 727              | 636     | 600               | 1 963                  | 74-75          | 23 505                             | 1 919            | 1 926 | 1 749 | 5 594     |
| 9-10                                                                      | 188 499                            | 569              | 526     | 463               | 1 558                  | 75-76          | 26 017                             | 2 164            | 2 251 | 2 064 | 6 479     |
| 10-11                                                                     | 192 472                            | 522              | 477     | 436               | 1 435                  | 76-77          | 19 835                             | 1 888            | 1 960 | 1 842 | 5 690     |
| 11-12                                                                     | 179 732                            | 541              | 470     | 410               | 1 421                  | 77-78          | 16 537                             | 1 630            | 1 584 | 1 558 | 5 042     |
| 12-13                                                                     | 181 781                            | 315              | 447     | 477               | 1 439                  | 78-79          | 15 619                             | 1 809            | 1 784 | 1 746 | 5 339     |
| 13-14                                                                     | 175 977                            | 572              | 453     | 466               | 1 491                  | 79-80          | 13 303                             | 1 663            | 1 574 | 1 408 | 4 645     |
| 14-15                                                                     | 179 570                            | 637              | 549     | 517               | 1 703                  | 80-81          | 15 169                             | 1 920            | 1 931 | 1 745 | 5 596     |
| 15-16                                                                     | 179 461                            | 693              | 638     | 561               | 1 892                  | 81-82          | 9 319                              | 1 452            | 1 505 | 1 280 | 4 237     |
| 16-17                                                                     | 185 710                            | 819              | 729     | 711               | 2 259                  | 82-83          | 8 599                              | 1 389            | 1 475 | 1 450 | 4 323     |
| 17-18                                                                     | 182 897                            | 901              | 757     | 757               | 2 417                  | 83-84          | 7 322                              | 1 273            | 1 303 | 1 192 | 3 768     |
| 18-19                                                                     | 190 884                            | 978              | 966     | 935               | 2 879                  | 84-85          | 6 473                              | 1 249            | 1 204 | 1 166 | 3 619     |
| 19-20                                                                     | 187 105                            | 1 084            | 1 038   | 1 030             | 3 152                  | 85-86          | 5 469                              | 1 070            | 1 131 | 1 013 | 3 214     |
| 20-21                                                                     | 202 087                            | 1 186            | 1 139   | 1 079             | 3 404                  | 86-87          | 4 127                              | 912              | 921   | 811   | 2 644     |
| 21-22                                                                     | 185 210                            | 1 186            | 1 181   | 1 161             | 3 528                  | 87-88          | 3 533                              | 804              | 767   | 732   | 2 303     |
| 22-23                                                                     | 200 297                            | 1 347            | 1 313   | 1 269             | 3 929                  | 88-89          | 2 708                              | 695              | 698   | 581   | 1 974     |
| 23-24                                                                     | 200 373                            | 1 400            | 1 299   | 1 244             | 3 943                  | 89-90          | 2 082                              | 571              | 546   | 511   | 1 628     |
| 24-25                                                                     | 205 227                            | 1 500            | 1 397   | 1 290             | 4 177                  | 90-91          | 1 992                              | 570              | 558   | 502   | 1 630     |
| 25-26                                                                     | 206 981                            | 1 489            | 1 429   | 1 255             | 4 173                  | 91-92          | 1 043                              | 325              | 396   | 312   | 1 033     |
| 26-27                                                                     | 186 769                            | 1 488            | 1 411   | 1 336             | 4 235                  | 92-93          | 857                                | 251              | 294   | 291   | 866       |
| 27-28                                                                     | 182 641                            | 1 426            | 1 295   | 1 300             | 4 021                  | 93-94          | 625                                | 228              | 231   | 201   | 660       |
| 28-29                                                                     | 188 197                            | 1 542            | 1 442   | 1 429             | 4 413                  | 94-95          | 492                                | 186              | 177   | 164   | 527       |
| 29-30                                                                     | 165 929                            | 1 437            | 1 343   | 1 233             | 4 033                  | 95-96          | 376                                | 153              | 159   | 146   | 458       |
| 30-31                                                                     | 203 939                            | 1 487            | 1 546   | 1 342             | 4 375                  | 96-97          | 245                                | 121              | 81    | 99    | 301       |
| 31-32                                                                     | 138 395                            | 1 174            | 1 198   | 1 135             | 3 507                  | 97-98          | 161                                | 70               | 80    | 67    | 217       |
| 32-33                                                                     | 162 673                            | 1 429            | 1 399   | 1 435             | 4 263                  | 98-99          | 143                                | 57               | 57    | 52    | 166       |
| 33-34                                                                     | 148 469                            | 1 364            | 1 272   | 1 166             | 3 802                  | 99-100         | 101                                | 30               | 43    | 26    | 99        |
| 34-35                                                                     | 146 959                            | 1 297            | 1 275   | 1 271             | 3 843                  | 100-101        |                                    | 41               | 32    | 29    | 102       |
| 35-36                                                                     | 163 180                            | 1 455            | 1 415   | 1 293             | 4 163                  | 101-102        |                                    | 6                | 11    | 8     | 25        |
| 36-37                                                                     | 137 979                            | 1 300            | 1 314   | 1 231             | 3 845                  | 102-103        |                                    | 9                | 8     | 13    | 30        |
| 37-38                                                                     | 132 531                            | 1 211            | 1 124   | 1 200             | 3 535                  | 103-104        |                                    | 13               | 4     | 4     | 21        |
| 38-39                                                                     | 150 016                            | 1 439            | 1 463   | 1 258             | 4 160                  | 104-105        |                                    | 4                | 13    | 4     | 21        |
| 39-40                                                                     | 137 368                            | 1 272            | 1 185   | 1 179             | 3 636                  | 105-106        |                                    | 11               | 4     | 3     | 18        |
| 40-41                                                                     | 165 140                            | 1 566            | 1 599   | 1 495             | 4 660                  | 106-107        |                                    | 4                | 4     | 1     | 9         |
| 41-42                                                                     | 102 587                            | 1 029            | 1 153   | 1 157             | 3 339                  | 107-108        |                                    | 2                | 0     | 4     | 6         |
| 42-43                                                                     | 123 266                            | 1 335            | 1 335   | 1 240             | 3 910                  | 108-109        |                                    | 3                | 2     | 0     | 5         |
| 43-44                                                                     | 107 974                            | 1 155            | 1 193   | 1 111             | 3 459                  | 109-110        |                                    | 0                | 0     | 1     | 1         |
| 44-45                                                                     | 105 567                            | 1 184            | 1 183   | 1 053             | 3 420                  | 110-111        |                                    | 2                | 1     | 0     | 3         |
| 45-46                                                                     | 120 671                            | 1 439            | 1 327   | 1 292             | 4 058                  | 111-112        |                                    | 0                | 0     | 0     | 0         |
| 46-47                                                                     | 93 402                             | 1 136            | 1 103   | 1 065             | 3 304                  | 112-113        |                                    | 2                | 4     | 2     | 8         |
| 47-48                                                                     | 91 646                             | 1 188            | 1 169   | 1 088             | 3 445                  | 113-114        |                                    |                  | 0     | 1     | 1         |
| 48-49                                                                     | 98 960                             | 1 230            | 1 225   | 1 225             | 3 690                  | 114-115        |                                    |                  | 1     |       | 1         |
| 49-50                                                                     | 93 219                             | 1 208            | 1 192   | 1 117             | 3 517                  |                |                                    |                  |       |       |           |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                    |                  |         |                   |                        |                |                                    |                  |       |       |           |
| CALENDAR YEAR.                                                            | AGE INTERVALS OF ONE YEAR.         |                  |         |                   |                        | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR.         |                  |       |       |           |
|                                                                           | 0-1                                | 1-2              | 2-3     | 3-4               | 4-5                    |                | 0-1                                | 1-2              | 2-3   | 3-4   | 4-5       |
| 1903                                                                      | 26 917                             | 6 391            | 2 972   | 1 870             | 1 403                  | 1905           |                                    |                  | 2 903 | 1 819 | 1 261     |
| 1904                                                                      |                                    | 6 788            | 2 954   | 1 935             | 1 396                  | 1906           |                                    |                  |       | 1 920 | 1 345     |

<sup>1</sup> Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in column 6 include only those in 1900 and 1901.

TABLE 163 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

| AGE INTERVAL.                                                             | ESTIMATED POPULATION JULY 1, 1900. | REPORTED DEATHS. |         |                   |                        | AGE INTERVAL.  | ESTIMATED POPULATION JULY 1, 1900. | REPORTED DEATHS. |       |       |           |
|---------------------------------------------------------------------------|------------------------------------|------------------|---------|-------------------|------------------------|----------------|------------------------------------|------------------|-------|-------|-----------|
|                                                                           |                                    | 1900             | 1901    | 1902 <sup>1</sup> | 1900-1902 <sup>1</sup> |                |                                    | 1900             | 1901  | 1902  | 1900-1902 |
| 1                                                                         | 2                                  | 3                | 4       | 5                 | 6                      | 7              | 8                                  | 9                | 10    | 11    | 12        |
| All ages.                                                                 | 9 798 243                          | 173 731          | 169 530 | 163 387           | 506 648                | Years.         |                                    |                  |       |       |           |
| INFANT MORTALITY BY MONTHS.                                               |                                    |                  |         |                   |                        |                |                                    |                  |       |       |           |
| Months.                                                                   |                                    |                  |         |                   |                        | 50-51          | 123 236                            | 1 913            | 1 943 | 1 849 | 5 705     |
| 0-1                                                                       |                                    | 12 861           | 11 996  |                   | 24 857                 | 51-52          | 75 027                             | 1 223            | 1 399 | 1 291 | 3 913     |
| 1-2                                                                       |                                    | 3 405            | 3 071   |                   | 6 476                  | 52-53          | 86 621                             | 1 562            | 1 658 | 1 669 | 4 889     |
| 2-3                                                                       |                                    | 3 183            | 2 756   |                   | 5 939                  | 53-54          | 75 715                             | 1 463            | 1 495 | 1 510 | 4 468     |
| 3-4                                                                       |                                    | 3 002            | 2 650   |                   | 5 652                  | 54-55          | 76 514                             | 1 548            | 1 506 | 1 496 | 4 550     |
| 4-5                                                                       |                                    | 2 682            | 2 200   |                   | 4 972                  | 55-56          | 84 439                             | 1 850            | 1 798 | 1 636 | 5 284     |
| 5-6                                                                       |                                    | 2 470            | 2 124   |                   | 4 594                  | 56-57          | 71 188                             | 1 699            | 1 726 | 1 626 | 5 051     |
| 6-7                                                                       |                                    | 2 312            | 1 976   |                   | 4 288                  | 57-58          | 61 848                             | 1 587            | 1 611 | 1 659 | 4 857     |
| 7-8                                                                       |                                    | 1 991            | 1 672   |                   | 3 663                  | 58-59          | 61 422                             | 1 663            | 1 749 | 1 717 | 5 129     |
| 8-9                                                                       |                                    | 1 899            | 1 587   |                   | 3 486                  | 59-60          | 58 427                             | 1 482            | 1 686 | 1 607 | 4 775     |
| 9-10                                                                      |                                    | 1 694            | 1 418   |                   | 3 112                  | 60-61          | 78 371                             | 2 159            | 2 252 | 2 083 | 6 494     |
| 10-11                                                                     |                                    | 1 504            | 1 237   |                   | 2 741                  | 61-62          | 44 917                             | 1 485            | 1 722 | 1 535 | 4 742     |
| 11-12                                                                     |                                    | 1 379            | 1 168   |                   | 2 547                  | 62-63          | 52 212                             | 1 767            | 1 858 | 1 958 | 5 583     |
| AGE INTERVALS OF ONE YEAR.                                                |                                    |                  |         |                   |                        |                |                                    |                  |       |       |           |
| Years.                                                                    |                                    |                  |         |                   |                        | 63-64          | 50 582                             | 1 841            | 1 857 | 1 836 | 5 534     |
| 0-1                                                                       | 218 283                            | 38 382           | 33 945  | 33 729            | 106 056                | 64-65          | 46 521                             | 1 922            | 1 880 | 1 806 | 5 608     |
| 1-2                                                                       | 196 213                            | 8 608            | 7 433   | 7 319             | 23 360                 | 65-66          | 51 968                             | 2 233            | 2 279 | 2 285 | 6 797     |
| 2-3                                                                       | 205 027                            | 3 754            | 3 208   | 3 244             | 10 206                 | 66-67          | 40 415                             | 1 815            | 1 912 | 1 736 | 5 463     |
| 3-4                                                                       | 207 175                            | 2 380            | 2 077   | 1 937             | 6 394                  | 67-68          | 39 408                             | 1 985            | 1 945 | 1 931 | 5 861     |
| 4-5                                                                       | 204 525                            | 1 644            | 1 590   | 1 500             | 4 734                  | 68-69          | 35 423                             | 2 043            | 2 136 | 2 001 | 6 180     |
| 5-6                                                                       | 200 526                            | 1 303            | 1 188   | 1 179             | 3 670                  | 69-70          | 32 209                             | 1 918            | 1 955 | 1 911 | 5 784     |
| 6-7                                                                       | 202 549                            | 1 077            | 1 061   | 1 004             | 3 142                  | 70-71          | 39 565                             | 2 385            | 2 285 | 2 167 | 6 837     |
| 7-8                                                                       | 199 066                            | 870              | 803     | 763               | 2 426                  | 71-72          | 25 397                             | 1 724            | 1 913 | 1 685 | 5 322     |
| 8-9                                                                       | 194 807                            | 718              | 691     | 660               | 2 069                  | 72-73          | 27 984                             | 2 633            | 1 990 | 2 173 | 6 216     |
| 9-10                                                                      | 188 420                            | 603              | 556     | 546               | 1 705                  | 73-74          | 24 618                             | 1 974            | 1 999 | 1 923 | 5 896     |
| 10-11                                                                     | 191 157                            | 538              | 559     | 540               | 1 637                  | 74-75          | 22 093                             | 1 995            | 1 979 | 1 983 | 5 957     |
| 11-12                                                                     | 178 086                            | 507              | 509     | 452               | 1 468                  | 75-76          | 23 237                             | 2 166            | 2 163 | 1 913 | 6 242     |
| 12-13                                                                     | 179 569                            | 479              | 444     | 409               | 1 332                  | 76-77          | 18 510                             | 1 978            | 1 928 | 1 871 | 5 777     |
| 13-14                                                                     | 172 431                            | 511              | 496     | 453               | 1 463                  | 77-78          | 15 787                             | 1 715            | 1 709 | 1 755 | 5 179     |
| 14-15                                                                     | 178 487                            | 519              | 544     | 457               | 1 520                  | 78-79          | 14 532                             | 1 848            | 1 811 | 1 784 | 5 443     |
| 15-16                                                                     | 175 311                            | 585              | 590     | 501               | 1 646                  | 79-80          | 12 354                             | 1 589            | 1 643 | 1 540 | 4 772     |
| 16-17                                                                     | 178 173                            | 721              | 662     | 633               | 2 016                  | 80-81          | 12 536                             | 1 773            | 1 713 | 1 644 | 5 130     |
| 17-18                                                                     | 172 267                            | 619              | 639     | 735               | 2 393                  | 81-82          | 8 727                              | 1 335            | 1 483 | 1 222 | 4 040     |
| 18-19                                                                     | 173 574                            | 921              | 912     | 901               | 2 734                  | 82-83          | 7 464                              | 1 353            | 1 511 | 1 425 | 4 289     |
| 19-20                                                                     | 168 742                            | 1 059            | 1 029   | 953               | 3 042                  | 83-84          | 5 991                              | 1 144            | 1 280 | 1 191 | 3 615     |
| 20-21                                                                     | 174 641                            | 1 060            | 1 071   | 1 042             | 3 173                  | 84-85          | 5 342                              | 1 125            | 1 136 | 1 018 | 3 279     |
| 21-22                                                                     | 177 094                            | 1 191            | 1 204   | 1 059             | 3 454                  | 85-86          | 4 365                              | 935              | 959   | 862   | 2 756     |
| 22-23                                                                     | 178 401                            | 1 219            | 1 208   | 1 151             | 3 601                  | 86-87          | 3 026                              | 764              | 815   | 731   | 2 310     |
| 23-24                                                                     | 179 557                            | 1 240            | 1 268   | 1 175             | 3 683                  | 87-88          | 2 652                              | 658              | 604   | 655   | 1 917     |
| 24-25                                                                     | 185 716                            | 1 405            | 1 261   | 1 156             | 3 822                  | 88-89          | 2 028                              | 546              | 538   | 477   | 1 561     |
| 25-26                                                                     | 188 794                            | 1 342            | 1 426   | 1 243             | 4 011                  | 89-90          | 1 468                              | 442              | 448   | 396   | 1 286     |
| 26-27                                                                     | 176 197                            | 1 333            | 1 325   | 1 263             | 3 923                  | 90-91          | 1 174                              | 367              | 370   | 369   | 1 106     |
| 27-28                                                                     | 177 162                            | 1 390            | 1 378   | 1 263             | 4 031                  | 91-92          | 691                                | 247              | 233   | 232   | 712       |
| 28-29                                                                     | 185 315                            | 1 470            | 1 402   | 1 445             | 4 517                  | 92-93          | 484                                | 173              | 202   | 184   | 559       |
| 29-30                                                                     | 164 106                            | 1 350            | 1 300   | 1 218             | 3 868                  | 93-94          | 362                                | 134              | 125   | 139   | 398       |
| 30-31                                                                     | 210 285                            | 1 636            | 1 605   | 1 557             | 4 798                  | 94-95          | 246                                | 102              | 108   | 101   | 311       |
| 31-32                                                                     | 138 788                            | 1 149            | 1 324   | 1 137             | 3 610                  | 95-96          | 207                                | 73               | 67    | 85    | 225       |
| 32-33                                                                     | 164 672                            | 1 532            | 1 483   | 1 520             | 4 535                  | 96-97          | 116                                | 59               | 47    | 49    | 155       |
| 33-34                                                                     | 152 039                            | 1 410            | 1 393   | 1 364             | 4 167                  | 97-98          | 82                                 | 30               | 33    | 39    | 102       |
| 34-35                                                                     | 149 350                            | 1 308            | 1 370   | 1 277             | 3 955                  | 98-99          | 61                                 | 23               | 33    | 25    | 81        |
| 35-36                                                                     | 172 176                            | 1 699            | 1 826   | 1 693             | 5 218                  | 99-100         | 47                                 | 25               | 24    | 19    | 68        |
| 36-37                                                                     | 140 438                            | 1 373            | 1 398   | 1 399             | 4 170                  | 100-101        |                                    | 19               | 18    | 16    | 53        |
| 37-38                                                                     | 133 636                            | 1 332            | 1 333   | 1 316             | 3 981                  | 101-102        |                                    | 4                | 13    | 7     | 24        |
| 38-39                                                                     | 151 440                            | 1 697            | 1 578   | 1 572             | 4 847                  | 102-103        |                                    | 6                | 9     | 10    | 25        |
| 39-40                                                                     | 140 282                            | 1 370            | 1 374   | 1 266             | 4 010                  | 103-104        |                                    | 5                | 2     | 2     | 9         |
| 40-41                                                                     | 176 904                            | 1 903            | 2 044   | 1 810             | 5 757                  | 104-105        |                                    | 6                | 4     | 2     | 12        |
| 41-42                                                                     | 107 316                            | 1 167            | 1 331   | 1 212             | 3 710                  | 105-106        |                                    | 2                | 2     | 1     | 5         |
| 42-43                                                                     | 130 294                            | 1 551            | 1 613   | 1 700             | 4 864                  | 106-107        |                                    | 0                | 1     | 0     | 1         |
| 43-44                                                                     | 110 812                            | 1 355            | 1 389   | 1 350             | 4 094                  | 107-108        |                                    | 2                | 3     | 0     | 5         |
| 44-45                                                                     | 108 457                            | 1 293            | 1 346   | 1 333             | 3 972                  | 108-109        |                                    |                  | 1     | 1     | 2         |
| 45-46                                                                     | 128 930                            | 1 685            | 1 888   | 1 750             | 5 323                  | 109-110        |                                    |                  | 1     | 0     | 1         |
| 46-47                                                                     | 95 225                             | 1 247            | 1 332   | 1 247             | 3 826                  | 110-111        |                                    |                  | 1     | 0     | 1         |
| 47-48                                                                     | 93 032                             | 1 231            | 1 327   | 1 331             | 3 889                  | 111-112        |                                    |                  | 1     | 2     | 3         |
| 48-49                                                                     | 98 615                             | 1 434            | 1 502   | 1 454             | 4 390                  | 112-113        |                                    |                  |       |       |           |
| 49-50                                                                     | 93 165                             | 1 411            | 1 361   | 1 264             | 4 036                  | 113-114        |                                    |                  |       |       |           |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                    |                  |         |                   |                        |                |                                    |                  |       |       |           |
| CALENDAR YEAR.                                                            | AGE INTERVALS OF ONE YEAR.         |                  |         |                   |                        | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR.         |                  |       |       |           |
|                                                                           | 0-1                                | 1-2              | 2-3     | 3-4               | 4-5                    |                | 0-1                                | 1-2              | 2-3   | 3-4   | 4-5       |
| 1903                                                                      | 32 789                             | 6 750            | 3 041   | 2 006             | 1 314                  | 1905           |                                    |                  | 3 036 | 1 867 | 1 352     |
| 1904                                                                      |                                    | 7 144            | 3 171   | 2 030             | 1 543                  | 1906           |                                    |                  |       | 2 010 | 1 427     |

<sup>1</sup> Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in column 6 include only those in 1900 and 1901.

TABLE 161 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

| AGE INTERVAL.                                                             | ESTIMATED POPULATION JULY 1, 1900. | REPORTED DEATHS. |         |                   |                        | AGE INTERVAL.  | ESTIMATED POPULATION JULY 1, 1900. | REPORTED DEATHS. |       |       |           |
|---------------------------------------------------------------------------|------------------------------------|------------------|---------|-------------------|------------------------|----------------|------------------------------------|------------------|-------|-------|-----------|
|                                                                           |                                    | 1900             | 1901    | 1902 <sup>1</sup> | 1900-1902 <sup>1</sup> |                |                                    | 1900             | 1901  | 1902  | 1900-1902 |
| 1                                                                         | 2                                  | 3                | 4       | 5                 | 6                      | 7              | 8                                  | 9                | 10    | 11    | 12        |
| All ages.                                                                 | 9 780 414                          | 159 079          | 152 418 | 145 163           | 456 660                | Years.         | 110 904                            | 1 554            | 1 614 | 1 416 | 4 584     |
| INFANT MORTALITY BY MONTHS.                                               |                                    |                  |         |                   |                        | 50-51          | 71 562                             | 1 051            | 1 218 | 1 091 | 3 360     |
| Months.                                                                   |                                    |                  |         |                   |                        | 51-52          | 91 787                             | 1 435            | 1 385 | 1 375 | 4 195     |
| 0-1                                                                       |                                    | 9 382            | 8 785   |                   | 18 167                 | 52-53          | 72 898                             | 1 291            | 1 305 | 1 200 | 3 799     |
| 1-2                                                                       |                                    | 2 700            | 2 301   |                   | 5 001                  | 53-54          | 75 526                             | 1 413            | 1 336 | 1 312 | 4 061     |
| 2-3                                                                       |                                    | 2 531            | 2 230   |                   | 4 773                  | 54-55          |                                    |                  |       |       |           |
| 3-4                                                                       |                                    | 2 456            | 2 074   |                   | 4 530                  | 55-56          | 84 236                             | 1 554            | 1 532 | 1 342 | 4 428     |
| 4-5                                                                       |                                    | 2 205            | 1 901   |                   | 4 106                  | 56-57          | 70 199                             | 1 513            | 1 582 | 1 370 | 4 465     |
| 5-6                                                                       |                                    | 2 019            | 1 658   |                   | 3 677                  | 57-58          | 61 933                             | 1 400            | 1 391 | 1 434 | 4 225     |
| 6-7                                                                       |                                    | 1 936            | 1 657   |                   | 3 593                  | 58-59          | 63 131                             | 1 555            | 1 570 | 1 489 | 4 614     |
| 7-8                                                                       |                                    | 1 615            | 1 379   |                   | 3 024                  | 59-60          | 50 992                             | 1 438            | 1 372 | 1 327 | 4 137     |
| 8-9                                                                       |                                    | 1 606            | 1 307   |                   | 2 913                  | 60-61          | 83 892                             | 1 990            | 2 080 | 1 918 | 5 988     |
| 9-10                                                                      |                                    | 1 430            | 1 238   |                   | 2 668                  | 61-62          | 45 690                             | 1 360            | 1 522 | 1 340 | 4 222     |
| 10-11                                                                     |                                    | 1 259            | 1 107   |                   | 2 366                  | 62-63          | 53 766                             | 1 648            | 1 733 | 1 744 | 5 125     |
| 11-12                                                                     |                                    | 1 263            | 1 022   |                   | 2 285                  | 63-64          | 51 066                             | 1 718            | 1 799 | 1 540 | 5 057     |
| AGE INTERVALS OF ONE YEAR.                                                |                                    |                  |         |                   |                        | 64-65          | 48 988                             | 1 759            | 1 740 | 1 684 | 5 183     |
| Years.                                                                    |                                    |                  |         |                   |                        | 65-66          | 56 124                             | 2 073            | 2 154 | 2 026 | 6 253     |
| 0-1                                                                       | 213 468                            | 30 435           | 26 668  | 26 697            | 83 800                 | 66-67          | 42 449                             | 1 674            | 1 732 | 1 638 | 5 041     |
| 1-2                                                                       | 192 557                            | 7 617            | 6 513   | 6 512             | 20 672                 | 67-68          | 40 200                             | 1 847            | 1 812 | 1 718 | 5 377     |
| 2-3                                                                       | 201 669                            | 3 431            | 2 919   | 3 049             | 9 399                  | 68-69          | 35 016                             | 1 946            | 2 023 | 1 839 | 5 828     |
| 3-4                                                                       | 203 978                            | 2 186            | 1 937   | 1 867             | 5 990                  | 69-70          | 34 396                             | 1 774            | 1 789 | 1 713 | 5 276     |
| 4-5                                                                       | 201 539                            | 1 677            | 1 480   | 1 368             | 4 525                  | 70-71          | 43 413                             | 2 410            | 2 421 | 2 269 | 7 100     |
| 5-6                                                                       | 198 795                            | 1 339            | 1 105   | 1 154             | 3 598                  | 71-72          | 25 508                             | 1 624            | 1 751 | 1 622 | 4 997     |
| 6-7                                                                       | 199 494                            | 1 030            | 993     | 859               | 2 882                  | 72-73          | 28 754                             | 1 999            | 1 909 | 1 991 | 5 899     |
| 7-8                                                                       | 195 310                            | 802              | 795     | 706               | 2 303                  | 73-74          | 25 137                             | 1 874            | 1 910 | 1 716 | 5 500     |
| 8-9                                                                       | 192 679                            | 700              | 612     | 575               | 1 887                  | 74-75          | 23 267                             | 1 901            | 1 904 | 1 730 | 5 535     |
| 9-10                                                                      | 185 161                            | 545              | 503     | 440               | 1 488                  | 75-76          | 25 606                             | 2 125            | 2 210 | 2 023 | 6 358     |
| 10-11                                                                     | 189 113                            | 489              | 456     | 423               | 1 368                  | 76-77          | 19 616                             | 1 867            | 1 938 | 1 825 | 5 630     |
| 11-12                                                                     | 176 459                            | 502              | 447     | 385               | 1 331                  | 77-78          | 16 390                             | 1 615            | 1 841 | 1 516 | 5 002     |
| 12-13                                                                     | 178 365                            | 474              | 419     | 453               | 1 348                  | 78-79          | 15 420                             | 1 788            | 1 759 | 1 727 | 5 274     |
| 13-14                                                                     | 172 607                            | 526              | 427     | 445               | 1 398                  | 79-80          | 13 141                             | 1 649            | 1 560 | 1 397 | 4 606     |
| 14-15                                                                     | 176 106                            | 605              | 522     | 458               | 1 615                  | 80-81          | 14 805                             | 1 873            | 1 896 | 1 714 | 5 483     |
| 15-16                                                                     | 175 886                            | 648              | 604     | 519               | 1 771                  | 81-82          | 9 223                              | 1 437            | 1 490 | 1 275 | 4 202     |
| 16-17                                                                     | 181 757                            | 778              | 678     | 671               | 2 127                  | 82-83          | 8 475                              | 1 373            | 1 161 | 1 440 | 4 274     |
| 17-18                                                                     | 178 857                            | 862              | 768     | 712               | 2 342                  | 83-84          | 7 232                              | 1 257            | 1 286 | 1 178 | 3 721     |
| 18-19                                                                     | 186 006                            | 921              | 820     | 878               | 2 722                  | 84-85          | 6 350                              | 1 236            | 1 193 | 1 154 | 3 583     |
| 19-20                                                                     | 182 015                            | 1 017            | 983     | 982               | 2 982                  | 85-86          | 5 350                              | 1 052            | 1 107 | 988   | 3 147     |
| 20-21                                                                     | 196 126                            | 1 123            | 1 076   | 1 019             | 3 218                  | 86-87          | 4 071                              | 903              | 914   | 803   | 2 620     |
| 21-22                                                                     | 180 110                            | 1 126            | 1 110   | 1 089             | 3 325                  | 87-88          | 3 465                              | 794              | 756   | 727   | 2 277     |
| 22-23                                                                     | 194 349                            | 1 277            | 1 254   | 1 181             | 3 712                  | 88-89          | 2 658                              | 685              | 689   | 575   | 1 949     |
| 23-24                                                                     | 191 228                            | 1 336            | 1 237   | 1 177             | 3 750                  | 89-90          | 2 040                              | 560              | 536   | 499   | 1 595     |
| 24-25                                                                     | 198 969                            | 1 433            | 1 316   | 1 217             | 3 966                  | 90-91          | 1 903                              | 554              | 547   | 484   | 1 585     |
| 25-26                                                                     | 200 854                            | 1 419            | 1 360   | 1 187             | 3 966                  | 91-92          | 1 026                              | 325              | 390   | 306   | 1 021     |
| 26-27                                                                     | 181 819                            | 1 435            | 1 319   | 1 268             | 4 052                  | 92-93          | 818                                | 275              | 288   | 256   | 849       |
| 27-28                                                                     | 177 955                            | 1 376            | 1 244   | 1 248             | 3 868                  | 93-94          | 606                                | 224              | 227   | 199   | 650       |
| 28-29                                                                     | 183 154                            | 1 486            | 1 375   | 1 380             | 4 241                  | 94-95          | 470                                | 183              | 166   | 156   | 503       |
| 29-30                                                                     | 161 817                            | 1 390            | 1 300   | 1 206             | 3 896                  | 95-96          | 347                                | 145              | 149   | 139   | 433       |
| 30-31                                                                     | 198 329                            | 1 422            | 1 464   | 1 278             | 4 164                  | 96-97          | 239                                | 119              | 80    | 97    | 296       |
| 31-32                                                                     | 135 694                            | 1 144            | 1 151   | 1 097             | 3 392                  | 97-98          | 153                                | 67               | 77    | 64    | 208       |
| 32-33                                                                     | 159 273                            | 1 388            | 1 361   | 1 384             | 4 133                  | 98-99          | 126                                | 54               | 53    | 50    | 157       |
| 33-34                                                                     | 145 592                            | 1 319            | 1 243   | 1 127             | 3 689                  | 99-100         | 93                                 | 28               | 41    | 24    | 93        |
| 34-35                                                                     | 143 870                            | 1 254            | 1 242   | 1 217             | 3 713                  | 100-101        |                                    | 36               | 28    | 21    | 85        |
| 35-36                                                                     | 158 791                            | 1 394            | 1 358   | 1 223             | 3 975                  | 101-102        |                                    | 6                | 10    | 8     | 24        |
| 36-37                                                                     | 135 312                            | 1 270            | 1 270   | 1 198             | 3 738                  | 102-103        |                                    | 9                | 5     | 10    | 23        |
| 37-38                                                                     | 129 843                            | 1 172            | 1 100   | 1 152             | 3 424                  | 103-104        |                                    | 12               | 3     | 3     | 18        |
| 38-39                                                                     | 146 589                            | 1 389            | 1 406   | 1 206             | 4 001                  | 104-105        |                                    | 4                | 10    | 3     | 17        |
| 39-40                                                                     | 134 025                            | 1 227            | 1 150   | 1 136             | 3 513                  | 105-106        |                                    | 6                | 3     | 3     | 12        |
| 40-41                                                                     | 160 373                            | 1 485            | 1 514   | 1 421             | 4 420                  | 106-107        |                                    | 3                | 4     | 1     | 8         |
| 41-42                                                                     | 100 855                            | 997              | 1 119   | 1 115             | 3 231                  | 107-108        |                                    | 1                | 0     | 2     | 3         |
| 42-43                                                                     | 120 795                            | 1 290            | 1 273   | 1 212             | 3 775                  | 108-109        |                                    | 2                | 2     | 0     | 4         |
| 43-44                                                                     | 106 103                            | 1 118            | 1 156   | 1 072             | 3 346                  | 109-110        |                                    | 0                | 0     | 0     | 0         |
| 44-45                                                                     | 103 653                            | 1 146            | 1 148   | 1 016             | 3 310                  | 110-111        |                                    | 1                | 0     | 0     | 1         |
| 45-46                                                                     | 117 474                            | 1 368            | 1 259   | 1 217             | 3 844                  | 111-112        |                                    | 0                | 0     | 0     | 0         |
| 46-47                                                                     | 91 759                             | 1 102            | 1 066   | 1 031             | 3 199                  | 112-113        |                                    | 1                | 1     | 1     | 3         |
| 47-48                                                                     | 90 072                             | 1 141            | 1 128   | 1 050             | 3 319                  | 113-114        |                                    |                  |       |       | 1         |
| 48-49                                                                     | 90 931                             | 1 186            | 1 188   | 1 177             | 3 551                  | 114-115        |                                    |                  |       |       | 1         |
| 49-50                                                                     | 91 367                             | 1 177            | 1 147   | 1 084             | 3 408                  |                |                                    |                  |       |       |           |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                    |                  |         |                   |                        |                |                                    |                  |       |       |           |
| CALENDAR YEAR.                                                            | AGE INTERVALS OF ONE YEAR.         |                  |         |                   |                        | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR.         |                  |       |       |           |
|                                                                           | 0-1                                | 1-2              | 2-3     | 3-4               | 4-5                    |                | 0-1                                | 1-2              | 2-3   | 3-4   | 4-5       |
| 1903                                                                      | 25 813                             | 6 105            | 2 831   | 1 799             | 1 351                  | 1905           |                                    |                  | 2 761 | 1 741 | 1 208     |
| 1904                                                                      |                                    | 6 480            | 2 829   | 1 861             | 1 347                  | 1906           |                                    |                  |       | 1 845 | 1 299     |

<sup>1</sup> Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in column 6 include only those in 1900 and 1901.



TABLE 165

POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR NEGRO MALES IN THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

| AGE INTERVAL.                                                             | ESTIMATED POPULATION JULY 1, 1900. | REPORTED DEATHS. |       |                   |                        | AGE INTERVAL.  | ESTIMATED POPULATION JULY 1, 1900. | REPORTED DEATHS. |       |       |           |
|---------------------------------------------------------------------------|------------------------------------|------------------|-------|-------------------|------------------------|----------------|------------------------------------|------------------|-------|-------|-----------|
|                                                                           |                                    | 1900             | 1901  | 1902 <sup>1</sup> | 1900-1902 <sup>1</sup> |                |                                    | 1900             | 1901  | 1902  | 1900-1902 |
| 1                                                                         | 2                                  | 3                | 4     | 5                 | 6                      | 7              | 8                                  | 9                | 10    | 11    | 12        |
| All ages.                                                                 | 185 530                            | 4 972            | 5 030 | 4 986             | 14 988                 |                |                                    |                  |       |       |           |
| INFANT MORTALITY BY MONTHS.                                               |                                    |                  |       |                   |                        |                |                                    |                  |       |       |           |
| Months.                                                                   |                                    |                  |       |                   |                        | Years.         |                                    |                  |       |       |           |
| 0-1                                                                       | .....                              | 395              | 412   | .....             | 807                    | 50-51          | 3 081                              | 71               | 95    | 79    | 245       |
| 1-2                                                                       | .....                              | 117              | 117   | .....             | 234                    | 51-52          | 1 125                              | 38               | 45    | 39    | 122       |
| 2-3                                                                       | .....                              | 131              | 107   | .....             | 238                    | 52-53          | 1 508                              | 47               | 53    | 37    | 137       |
| 3-4                                                                       | .....                              | 105              | 100   | .....             | 205                    | 53-54          | 1 190                              | 36               | 44    | 25    | 105       |
| 4-5                                                                       | .....                              | 103              | 95    | .....             | 198                    | 54-55          | 1 311                              | 48               | 43    | 50    | 141       |
| 5-6                                                                       | .....                              | 110              | 80    | .....             | 190                    | 55-56          | 1 620                              | 53               | 49    | 56    | 158       |
| 6-7                                                                       | .....                              | 115              | 91    | .....             | 206                    | 56-57          | 1 216                              | 59               | 58    | 49    | 166       |
| 7-8                                                                       | .....                              | 83               | 74    | .....             | 157                    | 57-58          | 870                                | 43               | 46    | 49    | 138       |
| 8-9                                                                       | .....                              | 59               | 41    | .....             | 100                    | 58-59          | 940                                | 28               | 49    | 51    | 131       |
| 9-10                                                                      | .....                              | 60               | 53    | .....             | 113                    | 59-60          | 882                                | 31               | 34    | 34    | 99        |
| 10-11                                                                     | .....                              | 42               | 33    | .....             | 75                     | 60-61          | 1 722                              | 85               | 81    | 72    | 241       |
| 11-12                                                                     | .....                              | 40               | 42    | .....             | 82                     | 61-62          | 458                                | 21               | 39    | 23    | 86        |
| AGE INTERVALS OF ONE YEAR.                                                |                                    |                  |       |                   |                        |                |                                    |                  |       |       |           |
| Years.                                                                    |                                    |                  |       |                   |                        | 62-63          | 592                                | 31               | 32    | 33    | 96        |
| 0-1                                                                       | 3 591                              | 1 360            | 1 245 | 1 316             | 3 921                  | 63-64          | 591                                | 34               | 26    | 18    | 78        |
| 1-2                                                                       | 3 037                              | 342              | 246   | 296               | 884                    | 64-65          | 487                                | 19               | 29    | 28    | 76        |
| 2-3                                                                       | 3 290                              | 121              | 119   | 118               | 358                    | 65-66          | 930                                | 67               | 67    | 59    | 193       |
| 3-4                                                                       | 3 230                              | 63               | 66    | 53                | 182                    | 66-67          | 423                                | 21               | 20    | 27    | 68        |
| 4-5                                                                       | 3 212                              | 47               | 48    | 44                | 139                    | 67-68          | 425                                | 22               | 32    | 17    | 71        |
| 5-6                                                                       | 3 210                              | 34               | 36    | 24                | 94                     | 68-69          | 381                                | 20               | 21    | 30    | 77        |
| 6-7                                                                       | 3 170                              | 30               | 29    | 27                | 86                     | 69-70          | 326                                | 24               | 26    | 15    | 65        |
| 7-8                                                                       | 3 085                              | 37               | 18    | 31                | 86                     | 70-71          | 648                                | 59               | 51    | 65    | 175       |
| 8-9                                                                       | 3 096                              | 15               | 24    | 20                | 59                     | 71-72          | 223                                | 12               | 18    | 20    | 50        |
| 9-10                                                                      | 2 972                              | 23               | 21    | 22                | 66                     | 72-73          | 254                                | 21               | 29    | 26    | 76        |
| 10-11                                                                     | 3 053                              | 19               | 26    | 17                | 62                     | 73-74          | 226                                | 21               | 17    | 21    | 62        |
| 11-12                                                                     | 2 823                              | 20               | 22    | 22                | 64                     | 74-75          | 185                                | 18               | 20    | 18    | 56        |
| 12-13                                                                     | 2 966                              | 17               | 13    | 18                | 48                     | 75-76          | 331                                | 32               | 32    | 43    | 107       |
| 13-14                                                                     | 2 889                              | 13               | 23    | 16                | 52                     | 76-77          | 153                                | 14               | 20    | 19    | 53        |
| 14-15                                                                     | 2 979                              | 26               | 13    | 24                | 63                     | 77-78          | 119                                | 13               | 15    | 14    | 42        |
| 15-16                                                                     | 3 040                              | 19               | 24    | 16                | 59                     | 78-79          | 147                                | 19               | 16    | 21    | 56        |
| 16-17                                                                     | 3 158                              | 34               | 26    | 41                | 101                    | 79-80          | 125                                | 11               | 10    | 16    | 37        |
| 17-18                                                                     | 3 149                              | 28               | 36    | 28                | 92                     | 80-81          | 175                                | 48               | 38    | 29    | 115       |
| 18-19                                                                     | 3 607                              | 55               | 39    | 44                | 138                    | 81-82          | 49                                 | 12               | 7     | 5     | 24        |
| 19-20                                                                     | 3 878                              | 52               | 45    | 46                | 143                    | 82-83          | 78                                 | 9                | 10    | 17    | 36        |
| 20-21                                                                     | 4 141                              | 49               | 55    | 51                | 155                    | 83-84          | 59                                 | 8                | 10    | 11    | 29        |
| 21-22                                                                     | 4 352                              | 59               | 49    | 46                | 154                    | 84-85          | 57                                 | 15               | 7     | 9     | 31        |
| 22-23                                                                     | 4 679                              | 51               | 62    | 60                | 173                    | 85-86          | 72                                 | 18               | 17    | 11    | 46        |
| 23-24                                                                     | 4 854                              | 67               | 56    | 62                | 185                    | 86-87          | 52                                 | 5                | 7     | 1     | 13        |
| 24-25                                                                     | 4 920                              | 53               | 77    | 73                | 203                    | 87-88          | 33                                 | 7                | 5     | 4     | 16        |
| 25-26                                                                     | 5 089                              | 70               | 70    | 62                | 202                    | 88-89          | 33                                 | 7                | 5     | 5     | 17        |
| 26-27                                                                     | 4 279                              | 61               | 76    | 54                | 194                    | 89-90          | 24                                 | 7                | 6     | 6     | 19        |
| 27-28                                                                     | 4 268                              | 50               | 53    | 48                | 151                    | 90-91          | 27                                 | 7                | 5     | 8     | 20        |
| 28-29                                                                     | 4 544                              | 50               | 64    | 73                | 187                    | 91-92          | 5                                  | 4                | 1     | 4     | 9         |
| 29-30                                                                     | 3 781                              | 53               | 57    | 60                | 170                    | 92-93          | 4                                  | 1                | 3     | 6     | 10        |
| 30-31                                                                     | 5 415                              | 62               | 70    | 77                | 209                    | 93-94          | 6                                  | 1                | 4     | 2     | 7         |
| 31-32                                                                     | 2 723                              | 23               | 58    | 27                | 108                    | 94-95          | 6                                  | 3                | 2     | 1     | 6         |
| 32-33                                                                     | 3 239                              | 49               | 43    | 57                | 149                    | 95-96          | 12                                 | 2                | 4     | 6     | 12        |
| 33-34                                                                     | 2 785                              | 37               | 42    | 40                | 119                    | 96-97          | 8                                  | 4                | 3     | 2     | 9         |
| 34-35                                                                     | 2 970                              | 42               | 42    | 50                | 134                    | 97-98          | 3                                  | 0                | 1     | 1     | 2         |
| 35-36                                                                     | 4 126                              | 57               | 68    | 76                | 201                    | 98-99          | 6                                  | 0                | 2     | 1     | 3         |
| 36-37                                                                     | 2 496                              | 36               | 48    | 49                | 133                    | 99-100         | 3                                  | 4                | 0     | 2     | 6         |
| 37-38                                                                     | 2 439                              | 28               | 56    | 38                | 122                    | 100-101        |                                    | 5                | 8     | 1     | 14        |
| 38-39                                                                     | 3 183                              | 38               | 58    | 58                | 154                    | 101-102        |                                    | 0                | 1     | 1     | 2         |
| 39-40                                                                     | 2 847                              | 41               | 48    | 41                | 130                    | 102-103        |                                    | 0                | 0     | 1     | 1         |
| 40-41                                                                     | 4 348                              | 70               | 86    | 80                | 236                    | 103-104        |                                    | 0                | 1     | 3     | 4         |
| 41-42                                                                     | 1 703                              | 30               | 33    | 29                | 92                     | 104-105        |                                    | 0                | 0     | 2     | 2         |
| 42-43                                                                     | 2 390                              | 36               | 37    | 53                | 126                    | 105-106        |                                    | 0                | 2     | 0     | 2         |
| 43-44                                                                     | 1 866                              | 41               | 47    | 42                | 130                    | 106-107        |                                    | 1                | 0     | 0     | 1         |
| 44-45                                                                     | 1 761                              | 39               | 37    | 37                | 113                    | 107-108        |                                    | 1                | 0     | 0     | 1         |
| 45-46                                                                     | 2 898                              | 65               | 82    | 71                | 218                    | 108-109        |                                    | 0                | 0     | 0     | 0         |
| 46-47                                                                     | 1 571                              | 32               | 37    | 33                | 102                    | 109-110        |                                    | 0                | 0     | 0     | 0         |
| 47-48                                                                     | 1 546                              | 29               | 38    | 47                | 114                    | 110-111        |                                    | 2                | 2     | 0     | 4         |
| 48-49                                                                     | 1 851                              | 53               | 44    | 37                | 134                    | 111-112        |                                    | 0                | 0     | 0     | 0         |
| 49-50                                                                     | 1 757                              | 44               | 46    | 32                | 122                    | 112-113        |                                    | 0                | 0     | 0     | 0         |
|                                                                           |                                    |                  |       |                   |                        | 113-114        |                                    | 0                | 0     | 0     | 0         |
|                                                                           |                                    |                  |       |                   |                        | 114-115        |                                    | 0                | 0     | 0     | 0         |
|                                                                           |                                    |                  |       |                   |                        | 115-116        |                                    | 1                | 0     | 0     | 1         |
|                                                                           |                                    |                  |       |                   |                        | 116-117        |                                    | .....            | 0     | 1     | 1         |
|                                                                           |                                    |                  |       |                   |                        | 128-129        |                                    | .....            | 1     | ..... | 1         |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                    |                  |       |                   |                        |                |                                    |                  |       |       |           |
| CALENDAR YEAR.                                                            | AGE INTERVALS OF ONE YEAR.         |                  |       |                   |                        | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR.         |                  |       |       |           |
|                                                                           | 0-1                                | 1-2              | 2-3   | 3-4               | 4-5                    |                | 0-1                                | 1-2              | 2-3   | 3-4   | 4-5       |
| 1903                                                                      | 1 277                              | 334              | 122   | 73                | 40                     | 1905           | .....                              | .....            | 137   | 76    | 52        |
| 1904                                                                      | .....                              | 323              | 134   | 78                | 52                     | 1906           | .....                              | .....            | ..... | 63    | 47        |

<sup>1</sup> Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in column 6 include only those in 1900 and 1901.

TABLE 166 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

## LIFE TABLE FOR NEGRO FEMALES IN THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

| AGE INTERVAL.                                                             | ESTIMATED POPULATION JULY 1, 1900. | REPORTED DEATHS. |       |                   |                        | AGE INTERVAL.  | ESTIMATED POPULATION JULY 1, 1900. | REPORTED DEATHS. |      |      |           |
|---------------------------------------------------------------------------|------------------------------------|------------------|-------|-------------------|------------------------|----------------|------------------------------------|------------------|------|------|-----------|
|                                                                           |                                    | 1900             | 1901  | 1902 <sup>1</sup> | 1900-1902 <sup>1</sup> |                |                                    | 1900             | 1901 | 1902 | 1900-1902 |
| 1                                                                         | 2                                  | 3                | 4     | 5                 | 6                      | 7              | 8                                  | 9                | 10   | 11   | 12        |
| All ages.                                                                 | 203 292                            | 4 982            | 4 804 | 4 732             | 14 518                 | Years.         | 3 379                              | 63               | 68   | 79   | 210       |
| INFANT MORTALITY BY MONTHS.                                               |                                    |                  |       |                   |                        | 50-51          | 1 033                              | 26               | 39   | 23   | 93        |
| Months.                                                                   |                                    |                  |       |                   |                        | 51-52          | 1 510                              | 46               | 44   | 41   | 131       |
| 0-1                                                                       |                                    | 302              | 327   |                   | 629                    | 52-53          | 1 168                              | 44               | 47   | 30   | 121       |
| 1-2                                                                       |                                    | 110              | 93    |                   | 203                    | 53-54          | 1 171                              | 41               | 42   | 31   | 114       |
| 2-3                                                                       |                                    | 109              | 85    |                   | 194                    | 54-55          |                                    |                  |      |      |           |
| 3-4                                                                       |                                    | 100              | 103   |                   | 203                    | 55-56          | 1 545                              | 51               | 48   | 42   | 141       |
| 4-5                                                                       |                                    | 89               | 83    |                   | 172                    | 56-57          | 987                                | 39               | 35   | 33   | 107       |
| 5-6                                                                       |                                    | 71               | 79    |                   | 150                    | 57-58          | 771                                | 29               | 35   | 35   | 99        |
| 6-7                                                                       |                                    | 75               | 71    |                   | 146                    | 58-59          | 841                                | 33               | 36   | 36   | 105       |
| 7-8                                                                       |                                    | 65               | 57    |                   | 122                    | 59-60          | 792                                | 27               | 32   | 30   | 89        |
| 8-9                                                                       |                                    | 61               | 65    |                   | 126                    | 60-61          | 1 508                              | 69               | 68   | 67   | 204       |
| 9-10                                                                      |                                    | 42               | 52    |                   | 94                     | 61-62          | 451                                | 22               | 33   | 18   | 73        |
| 10-11                                                                     |                                    | 55               | 40    |                   | 95                     | 62-63          | 604                                | 40               | 29   | 29   | 98        |
| 11-12                                                                     |                                    | 49               | 36    |                   | 85                     | 63-64          | 533                                | 29               | 30   | 22   | 81        |
| AGE INTERVALS OF ONE YEAR.                                                |                                    |                  |       |                   |                        | 64-65          | 530                                | 37               | 27   | 22   | 86        |
| Years.                                                                    |                                    |                  |       |                   |                        | 65-66          | 989                                | 64               | 53   | 57   | 174       |
| 0-1                                                                       | 3 654                              | 1 128            | 1 091 | 1 066             | 3 285                  | 66-67          | 365                                | 20               | 22   | 29   | 71        |
| 1-2                                                                       | 3 241                              | 314              | 249   | 274               | 837                    | 67-68          | 429                                | 26               | 22   | 30   | 78        |
| 2-3                                                                       | 3 511                              | 151              | 106   | 131               | 388                    | 68-69          | 399                                | 22               | 27   | 28   | 77        |
| 3-4                                                                       | 3 345                              | 72               | 65    | 64                | 201                    | 69-70          | 393                                | 20               | 21   | 15   | 56        |
| 4-5                                                                       | 3 321                              | 52               | 49    | 49                | 150                    | 70-71          | 850                                | 59               | 58   | 54   | 171       |
| 5-6                                                                       | 3 186                              | 38               | 30    | 34                | 102                    | 71-72          | 195                                | 20               | 17   | 16   | 53        |
| 6-7                                                                       | 3 337                              | 23               | 32    | 31                | 86                     | 72-73          | 310                                | 26               | 16   | 29   | 71        |
| 7-8                                                                       | 3 356                              | 35               | 19    | 23                | 77                     | 73-74          | 209                                | 24               | 24   | 27   | 75        |
| 8-9                                                                       | 3 301                              | 26               | 22    | 25                | 73                     | 74-75          | 231                                | 18               | 20   | 18   | 56        |
| 9-10                                                                      | 3 165                              | 22               | 23    | 23                | 68                     | 75-76          | 390                                | 38               | 40   | 40   | 118       |
| 10-11                                                                     | 3 225                              | 31               | 18    | 13                | 62                     | 76-77          | 207                                | 21               | 22   | 17   | 60        |
| 11-12                                                                     | 3 154                              | 39               | 22    | 24                | 85                     | 77-78          | 139                                | 15               | 13   | 12   | 40        |
| 12-13                                                                     | 3 257                              | 38               | 29    | 22                | 89                     | 78-79          | 154                                | 20               | 25   | 17   | 62        |
| 13-14                                                                     | 3 214                              | 46               | 25    | 21                | 92                     | 79-80          | 155                                | 11               | 14   | 11   | 36        |
| 14-15                                                                     | 3 312                              | 32               | 27    | 27                | 86                     | 80-81          | 329                                | 46               | 32   | 29   | 107       |
| 15-16                                                                     | 3 429                              | 44               | 34    | 40                | 118                    | 81-82          | 83                                 | 15               | 15   | 5    | 35        |
| 16-17                                                                     | 3 830                              | 40               | 49    | 40                | 129                    | 82-83          | 121                                | 16               | 12   | 18   | 46        |
| 17-18                                                                     | 3 907                              | 36               | 49    | 44                | 129                    | 83-84          | 88                                 | 16               | 17   | 14   | 47        |
| 18-19                                                                     | 4 737                              | 52               | 45    | 58                | 155                    | 84-85          | 84                                 | 12               | 11   | 12   | 35        |
| 19-20                                                                     | 4 992                              | 65               | 54    | 44                | 163                    | 85-86          | 113                                | 18               | 23   | 22   | 63        |
| 20-21                                                                     | 5 824                              | 62               | 62    | 59                | 183                    | 86-87          | 51                                 | 8                | 7    | 8    | 23        |
| 21-22                                                                     | 5 016                              | 60               | 70    | 72                | 202                    | 87-88          | 60                                 | 10               | 11   | 5    | 26        |
| 22-23                                                                     | 5 836                              | 68               | 58    | 80                | 212                    | 88-89          | 48                                 | 9                | 9    | 5    | 23        |
| 23-24                                                                     | 6 018                              | 61               | 60    | 65                | 186                    | 89-90          | 41                                 | 10               | 10   | 12   | 33        |
| 24-25                                                                     | 6 146                              | 62               | 82    | 61                | 205                    | 90-91          | 81                                 | 16               | 11   | 17   | 44        |
| 25-26                                                                     | 6 035                              | 69               | 70    | 69                | 208                    | 91-92          | 17                                 | 0                | 6    | 5    | 11        |
| 26-27                                                                     | 4 858                              | 51               | 61    | 64                | 176                    | 92-93          | 18                                 | 6                | 6    | 5    | 17        |
| 27-28                                                                     | 4 605                              | 48               | 49    | 49                | 146                    | 93-94          | 17                                 | 4                | 4    | 2    | 10        |
| 28-29                                                                     | 4 026                              | 54               | 64    | 48                | 166                    | 94-95          | 19                                 | 3                | 17   | 8    | 21        |
| 29-30                                                                     | 4 028                              | 47               | 43    | 47                | 137                    | 95-96          | 25                                 | 6                | 9    | 7    | 22        |
| 30-31                                                                     | 5 467                              | 66               | 81    | 64                | 211                    | 96-97          | 5                                  | 2                | 1    | 2    | 5         |
| 31-32                                                                     | 2 651                              | 30               | 46    | 37                | 113                    | 97-98          | 8                                  | 3                | 2    | 3    | 8         |
| 32-33                                                                     | 3 328                              | 39               | 37    | 49                | 125                    | 98-99          | 17                                 | 2                | 4    | 2    | 8         |
| 33-34                                                                     | 2 811                              | 43               | 28    | 38                | 109                    | 99-100         | 7                                  | 2                | 2    | 2    | 6         |
| 34-35                                                                     | 3 013                              | 43               | 33    | 52                | 128                    | 100-101        |                                    | 5                | 3    | 6    | 14        |
| 35-36                                                                     | 4 297                              | 61               | 58    | 70                | 189                    | 101-102        |                                    | 0                | 1    | 0    | 1         |
| 36-37                                                                     | 2 584                              | 30               | 43    | 32                | 105                    | 102-103        |                                    | 1                | 3    | 3    | 7         |
| 37-38                                                                     | 2 609                              | 39               | 24    | 48                | 111                    | 103-104        |                                    | 1                | 1    | 1    | 3         |
| 38-39                                                                     | 3 335                              | 49               | 54    | 62                | 155                    | 104-105        |                                    | 0                | 3    | 1    | 4         |
| 39-40                                                                     | 3 265                              | 45               | 34    | 43                | 122                    | 105-106        |                                    | 5                | 1    | 0    | 6         |
| 40-41                                                                     | 4 640                              | 76               | 83    | 72                | 231                    | 106-107        |                                    | 1                | 0    | 0    | 1         |
| 41-42                                                                     | 1 685                              | 32               | 34    | 40                | 106                    | 107-108        |                                    | 1                | 0    | 2    | 3         |
| 42-43                                                                     | 2 396                              | 43               | 61    | 27                | 131                    | 108-109        |                                    | 0                | 0    | 0    | 0         |
| 43-44                                                                     | 1 810                              | 37               | 36    | 39                | 112                    | 109-110        |                                    | 0                | 0    | 1    | 1         |
| 44-45                                                                     | 1 860                              | 38               | 35    | 34                | 107                    | 110-111        |                                    | 0                | 1    | 0    | 1         |
| 45-46                                                                     | 3 104                              | 72               | 69    | 71                | 212                    | 111-112        |                                    | 0                | 0    | 0    | 0         |
| 46-47                                                                     | 1 585                              | 33               | 37    | 33                | 103                    | 112-113        |                                    | 1                | 3    | 1    | 5         |
| 47-48                                                                     | 1 521                              | 40               | 41    | 37                | 124                    |                |                                    |                  |      |      |           |
| 48-49                                                                     | 1 960                              | 44               | 45    | 47                | 136                    |                |                                    |                  |      |      |           |
| 49-50                                                                     | 1 808                              | 31               | 43    | 33                | 107                    |                |                                    |                  |      |      |           |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                    |                  |       |                   |                        |                |                                    |                  |      |      |           |
| CALENDAR YEAR.                                                            | AGE INTERVALS OF ONE YEAR.         |                  |       |                   |                        | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR.         |                  |      |      |           |
|                                                                           | 0-1                                | 1-2              | 2-3   | 3-4               | 4-5                    |                | 0-1                                | 1-2              | 2-3  | 3-4  | 4-5       |
| 1903                                                                      | 1 087                              | 280              | 141   | 67                | 46                     | 1905           |                                    |                  | 139  | 76   | 53        |
| 1904                                                                      |                                    | 303              | 124   | 69                | 47                     | 1906           |                                    |                  |      | 72   | 44        |

<sup>1</sup> Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in column 6 include only those in 1900 and 1901.

TABLE 167 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR NATIVE WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

| AGE<br>INTERVAL.                                                          | ESTIMATED<br>POPULATION<br>JULY 1, 1900. | REPORTED DEATHS. |         |                   |                        | AGE<br>INTERVAL.  | ESTIMATED<br>POPULATION<br>JULY 1, 1900. | REPORTED DEATHS. |       |       |           |
|---------------------------------------------------------------------------|------------------------------------------|------------------|---------|-------------------|------------------------|-------------------|------------------------------------------|------------------|-------|-------|-----------|
|                                                                           |                                          | 1900             | 1901    | 1902 <sup>1</sup> | 1900-1902 <sup>1</sup> |                   |                                          | 1900             | 1901  | 1902  | 1900-1902 |
| 1                                                                         | 2                                        | 3                | 4       | 5                 | 6                      | 7                 | 8                                        | 9                | 10    | 11    | 12        |
| All ages.                                                                 | 7 520 670                                | 129 797          | 124 250 | 120 134           | 374 181                | Years.            |                                          |                  |       |       |           |
| INFANT MORTALITY BY MONTHS.                                               |                                          |                  |         |                   |                        | 50-51             | 60 224                                   | 802              | 903   | 933   | 2 728     |
| Months.                                                                   |                                          |                  |         |                   |                        | 51-52             | 48 921                                   | 658              | 781   | 715   | 2 154     |
| 0-1                                                                       |                                          | 12 843           | 11 978  |                   | 24 821                 | 52-53             | 53 918                                   | 801              | 855   | 897   | 2 553     |
| 1-2                                                                       |                                          | 3 394            | 3 059   |                   | 6 453                  | 53-54             | 48 178                                   | 733              | 796   | 848   | 2 377     |
| 2-3                                                                       |                                          | 3 168            | 2 747   |                   | 5 915                  | 54-55             | 47 411                                   | 797              | 784   | 791   | 2 372     |
| 3-4                                                                       |                                          | 2 984            | 2 638   |                   | 5 622                  | 55-56             | 49 373                                   | 882              | 859   | 760   | 2 501     |
| 4-5                                                                       |                                          | 2 662            | 2 270   |                   | 4 932                  | 56-57             | 44 518                                   | 848              | 889   | 812   | 2 549     |
| 5-6                                                                       |                                          | 2 451            | 2 103   |                   | 4 554                  | 57-58             | 39 760                                   | 822              | 862   | 919   | 2 603     |
| 6-7                                                                       |                                          | 2 286            | 1 959   |                   | 4 245                  | 58-59             | 37 805                                   | 837              | 905   | 905   | 2 647     |
| 7-8                                                                       |                                          | 1 903            | 1 656   |                   | 3 559                  | 59-60             | 37 306                                   | 825              | 949   | 881   | 2 655     |
| 8-9                                                                       |                                          | 1 876            | 1 569   |                   | 3 445                  | 60-61             | 42 233                                   | 973              | 1 019 | 931   | 2 923     |
| 9-10                                                                      |                                          | 1 669            | 1 403   |                   | 3 072                  | 61-62             | 20 439                                   | 811              | 941   | 838   | 2 590     |
| 10-11                                                                     |                                          | 1 482            | 1 217   |                   | 2 699                  | 62-63             | 33 192                                   | 970              | 997   | 1 043 | 3 010     |
| 11-12                                                                     |                                          | 1 364            | 1 155   |                   | 2 519                  | 63-64             | 32 663                                   | 1 007            | 1 008 | 1 001 | 3 016     |
| AGE INTERVALS OF ONE YEAR.                                                |                                          |                  |         |                   |                        | 64-65             | 29 769                                   | 1 075            | 1 059 | 990   | 3 124     |
| Years.                                                                    |                                          |                  |         |                   |                        | 65-66             | 29 824                                   | 1 122            | 1 122 | 1 112 | 3 356     |
| 0-1                                                                       | 217 107                                  | 38 143           | 33 754  | 33 458            | 105 354                | 66-67             | 26 127                                   | 1 031            | 1 061 | 1 003 | 3 095     |
| 1-2                                                                       | 193 875                                  | 8 420            | 7 255   | 7 146             | 22 821                 | 67-68             | 25 429                                   | 1 155            | 1 119 | 1 137 | 3 411     |
| 2-3                                                                       | 201 873                                  | 3 657            | 3 099   | 3 134             | 9 890                  | 68-69             | 22 375                                   | 1 199            | 1 246 | 1 134 | 3 579     |
| 3-4                                                                       | 203 170                                  | 2 276            | 1 993   | 1 848             | 6 117                  | 69-70             | 20 630                                   | 1 107            | 1 143 | 1 160 | 3 410     |
| 4-5                                                                       | 199 591                                  | 1 587            | 1 541   | 1 432             | 4 560                  | 70-71             | 22 247                                   | 1 207            | 1 222 | 1 153 | 3 612     |
| 5-6                                                                       | 194 714                                  | 1 249            | 1 141   | 1 117             | 3 507                  | 71-72             | 16 953                                   | 1 055            | 1 185 | 1 067 | 3 367     |
| 6-7                                                                       | 196 215                                  | 1 013            | 1 009   | 970               | 2 992                  | 72-73             | 18 219                                   | 1 310            | 1 179 | 1 233 | 3 722     |
| 7-8                                                                       | 191 494                                  | 813              | 760     | 721               | 2 294                  | 73-74             | 16 205                                   | 1 226            | 1 251 | 1 179 | 3 656     |
| 8-9                                                                       | 185 443                                  | 675              | 651     | 620               | 1 946                  | 74-75             | 14 412                                   | 1 237            | 1 269 | 1 259 | 3 765     |
| 9-10                                                                      | 177 347                                  | 561              | 520     | 513               | 1 594                  | 75-76             | 14 401                                   | 1 305            | 1 243 | 1 129 | 3 677     |
| 10-11                                                                     | 177 530                                  | 503              | 532     | 506               | 1 541                  | 76-77             | 12 342                                   | 1 241            | 1 196 | 1 141 | 3 578     |
| 11-12                                                                     | 164 763                                  | 478              | 466     | 411               | 1 355                  | 77-78             | 10 922                                   | 1 113            | 1 120 | 1 137 | 3 370     |
| 12-13                                                                     | 163 972                                  | 423              | 404     | 371               | 1 198                  | 78-79             | 9 829                                    | 1 188            | 1 164 | 1 131 | 3 483     |
| 13-14                                                                     | 155 667                                  | 473              | 445     | 412               | 1 330                  | 79-80             | 8 633                                    | 1 127            | 1 114 | 1 056 | 3 297     |
| 14-15                                                                     | 158 672                                  | 444              | 481     | 407               | 1 332                  | 80-81             | 8 052                                    | 1 105            | 1 100 | 1 025 | 3 230     |
| 15-16                                                                     | 154 104                                  | 526              | 486     | 441               | 1 453                  | 81-82             | 6 277                                    | 941              | 1 045 | 845   | 2 831     |
| 16-17                                                                     | 154 889                                  | 627              | 574     | 549               | 1 750                  | 82-83             | 5 394                                    | 939              | 1 024 | 967   | 2 930     |
| 17-18                                                                     | 147 096                                  | 696              | 716     | 592               | 2 004                  | 83-84             | 4 460                                    | 807              | 894   | 826   | 2 527     |
| 18-19                                                                     | 143 382                                  | 750              | 753     | 723               | 2 226                  | 84-85             | 3 834                                    | 792              | 801   | 722   | 2 315     |
| 19-20                                                                     | 137 412                                  | 873              | 848     | 758               | 2 479                  | 85-86             | 3 042                                    | 660              | 637   | 602   | 1 899     |
| 20-21                                                                     | 136 511                                  | 849              | 859     | 832               | 2 540                  | 86-87             | 2 220                                    | 522              | 550   | 518   | 1 620     |
| 21-22                                                                     | 138 939                                  | 942              | 929     | 872               | 2 743                  | 87-88             | 1 949                                    | 454              | 412   | 476   | 1 342     |
| 22-23                                                                     | 135 076                                  | 916              | 902     | 856               | 2 674                  | 88-89             | 1 447                                    | 408              | 393   | 342   | 1 143     |
| 23-24                                                                     | 135 406                                  | 976              | 932     | 872               | 2 780                  | 89-90             | 1 065                                    | 331              | 315   | 290   | 936       |
| 24-25                                                                     | 137 080                                  | 1 054            | 915     | 860               | 2 829                  | 90-91             | 785                                      | 244              | 257   | 252   | 753       |
| 25-26                                                                     | 134 099                                  | 997              | 981     | 873               | 2 851                  | 91-92             | 514                                      | 195              | 174   | 171   | 540       |
| 26-27                                                                     | 126 014                                  | 969              | 977     | 919               | 2 865                  | 92-93             | 319                                      | 118              | 131   | 122   | 371       |
| 27-28                                                                     | 124 900                                  | 1 012            | 953     | 928               | 2 893                  | 93-94             | 268                                      | 89               | 89    | 99    | 277       |
| 28-29                                                                     | 124 684                                  | 1 015            | 1 096   | 1 023             | 3 134                  | 94-95             | 178                                      | 79               | 80    | 73    | 232       |
| 29-30                                                                     | 112 547                                  | 965              | 912     | 877               | 2 754                  | 95-96             | 127                                      | 41               | 52    | 57    | 150       |
| 30-31                                                                     | 131 086                                  | 1 048            | 1 031   | 985               | 3 064                  | 96-97             | 74                                       | 35               | 34    | 28    | 97        |
| 31-32                                                                     | 96 763                                   | 823              | 924     | 803               | 2 550                  | 97-98             | 50                                       | 23               | 22    | 24    | 69        |
| 32-33                                                                     | 108 525                                  | 1 041            | 962     | 1 010             | 3 013                  | 98-99             | 31                                       | 9                | 22    | 15    | 46        |
| 33-34                                                                     | 100 198                                  | 930              | 933     | 915               | 2 778                  | 99-100            | 23                                       | 14               | 6     | 10    | 30        |
| 34-35                                                                     | 95 770                                   | 849              | 883     | 848               | 2 580                  | 100-101           |                                          | 7                |       |       |           |
| 35-36                                                                     | 102 051                                  | 915              | 988     | 943               | 2 846                  | 101-102           |                                          | 1                | 11    | 10    | 28        |
| 36-37                                                                     | 87 288                                   | 838              | 834     | 868               | 2 540                  | 102-103           |                                          | 1                | 4     | 2     | 7         |
| 37-38                                                                     | 85 797                                   | 827              | 765     | 815               | 2 407                  | 103-104           |                                          | 2                | 1     | 3     | 6         |
| 38-39                                                                     | 97 863                                   | 1 057            | 950     | 905               | 2 912                  | 104-105           |                                          | 1                | 0     | 0     | 1         |
| 39-40                                                                     | 92 857                                   | 850              | 867     | 760               | 2 483                  | 105-106           |                                          | 3                | 1     | 0     | 4         |
| 40-41                                                                     | 106 342                                  | 1 031            | 1 087   | 946               | 3 064                  | 106-107           |                                          |                  | 0     | 0     | 0         |
| 41-42                                                                     | 74 315                                   | 758              | 867     | 773               | 2 398                  | 107-108           |                                          |                  | 0     | 0     | 0         |
| 42-43                                                                     | 86 478                                   | 954              | 958     | 1 009             | 2 921                  | 108-109           |                                          |                  | 1     | 0     | 1         |
| 43-44                                                                     | 75 201                                   | 856              | 865     | 858               | 2 579                  | 109-110           |                                          |                  | 0     | 0     | 0         |
| 44-45                                                                     | 73 200                                   | 813              | 813     | 774               | 2 400                  | 110-111           |                                          |                  | 0     | 0     | 0         |
| 45-46                                                                     | 80 319                                   | 869              | 982     | 923               | 2 774                  | 111-112           |                                          |                  | 0     | 1     | 1         |
| 46-47                                                                     | 64 325                                   | 764              | 816     | 732               | 2 312                  | 112-113           |                                          |                  | 1     |       |           |
| 47-48                                                                     | 62 343                                   | 698              | 814     | 838               | 2 350                  | 113-114           |                                          |                  |       |       |           |
| 48-49                                                                     | 62 538                                   | 775              | 897     | 830               | 2 502                  | 114-115           |                                          |                  |       |       |           |
| 49-50                                                                     | 59 902                                   | 840              | 801     | 753               | 2 394                  | 115-116           |                                          |                  |       |       |           |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                          |                  |         |                   |                        |                   |                                          |                  |       |       |           |
| CALENDAR<br>YEAR.                                                         | AGE INTERVALS OF ONE YEAR.               |                  |         |                   |                        | CALENDAR<br>YEAR. | AGE INTERVALS OF ONE YEAR.               |                  |       |       |           |
|                                                                           | 0-1                                      | 1-2              | 2-3     | 3-4               | 4-5                    |                   | 0-1                                      | 1-2              | 2-3   | 3-4   | 4-5       |
| 1903                                                                      | 32 557                                   | 6 553            | 2 923   | 1 906             | 1 237                  | 1905              |                                          |                  | 2 936 | 1 763 | 1 263     |
| 1904                                                                      |                                          | 6 969            | 3 063   | 1 923             | 1 457                  | 1906              |                                          |                  |       | 1 850 | 1 335     |

<sup>1</sup> Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in column 6 include only those in 1900 and 1901.

TABLE 168 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR NATIVE WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

| AGE<br>INTERVAL.                                                          | ESTIMATED<br>POPULATION<br>JULY 1, 1900. | REPORTED DEATHS. |         |                   |                        | AGE<br>INTERVAL.  | ESTIMATED<br>POPULATION<br>JULY 1, 1900. | REPORTED DEATHS. |       |       |           |
|---------------------------------------------------------------------------|------------------------------------------|------------------|---------|-------------------|------------------------|-------------------|------------------------------------------|------------------|-------|-------|-----------|
|                                                                           |                                          | 1900             | 1901    | 1902 <sup>1</sup> | 1900-1902 <sup>1</sup> |                   |                                          | 1900             | 1901  | 1902  | 1900-1902 |
| 1                                                                         | 2                                        | 3                | 4       | 5                 | 6                      | 7                 | 8                                        | 9                | 10    | 11    | 12        |
| All ages.                                                                 | 7 587 114                                | 118 310          | 111 495 | 107 132           | 336 967                | Years.            |                                          |                  |       |       |           |
| INFANT MORTALITY BY MONTHS.                                               |                                          |                  |         |                   |                        | 50-51             | 68 550                                   | 751              | 805   | 744   | 2 300     |
| Months.                                                                   |                                          |                  |         |                   |                        | 51-52             | 48 381                                   | 576              | 668   | 661   | 1 905     |
| 0-1                                                                       |                                          | 9 374            | 8 766   |                   | 18 140                 | 52-53             | 52 371                                   | 767              | 747   | 749   | 2 263     |
| 1-2                                                                       |                                          | 2 693            | 2 291   |                   | 4 984                  | 53-54             | 47 466                                   | 697              | 734   | 668   | 2 097     |
| 2-3                                                                       |                                          | 2 521            | 2 226   |                   | 4 747                  | 54-55             | 49 431                                   | 782              | 726   | 681   | 2 189     |
| 3-4                                                                       |                                          | 2 448            | 2 061   |                   | 4 509                  | 55-56             | 50 328                                   | 768              | 755   | 680   | 2 212     |
| 4-5                                                                       |                                          | 2 198            | 1 888   |                   | 4 086                  | 56-57             | 45 367                                   | 812              | 837   | 726   | 2 375     |
| 5-6                                                                       |                                          | 2 001            | 1 614   |                   | 3 615                  | 57-58             | 41 014                                   | 767              | 761   | 798   | 2 326     |
| 6-7                                                                       |                                          | 1 917            | 1 036   |                   | 2 953                  | 58-59             | 40 002                                   | 824              | 808   | 767   | 2 399     |
| 7-8                                                                       |                                          | 1 630            | 1 366   |                   | 2 996                  | 59-60             | 39 086                                   | 790              | 765   | 736   | 2 291     |
| 8-9                                                                       |                                          | 1 585            | 1 293   |                   | 2 878                  | 60-61             | 44 807                                   | 836              | 890   | 830   | 2 556     |
| 9-10                                                                      |                                          | 1 410            | 1 223   |                   | 2 633                  | 61-62             | 30 978                                   | 719              | 826   | 733   | 2 278     |
| 10-11                                                                     |                                          | 1 238            | 1 095   |                   | 2 333                  | 62-63             | 34 612                                   | 901              | 928   | 920   | 2 749     |
| 11-12                                                                     |                                          | 1 248            | 1 009   |                   | 2 257                  | 63-64             | 33 928                                   | 920              | 930   | 823   | 2 682     |
| AGE INTERVALS OF ONE YEAR.                                                |                                          |                  |         |                   |                        | 64-65             | 31 645                                   | 991              | 964   | 923   | 2 868     |
| Years.                                                                    |                                          |                  |         |                   |                        | 65-66             | 31 670                                   | 938              | 996   | 1 014 | 2 948     |
| 0-1                                                                       | 212 258                                  | 30 266           | 26 501  | 26 506            | 83 273                 | 66-67             | 27 852                                   | 932              | 961   | 944   | 2 837     |
| 1-2                                                                       | 190 291                                  | 7 464            | 6 382   | 6 362             | 20 208                 | 67-68             | 26 173                                   | 1 030            | 985   | 919   | 2 833     |
| 2-3                                                                       | 198 563                                  | 3 338            | 2 837   | 2 933             | 9 108                  | 68-69             | 21 273                                   | 1 011            | 1 104 | 1 011 | 3 126     |
| 3-4                                                                       | 199 907                                  | 2 114            | 1 884   | 1 776             | 5 774                  | 69-70             | 22 504                                   | 1 032            | 1 033 | 994   | 3 059     |
| 4-5                                                                       | 196 747                                  | 1 617            | 1 438   | 1 303             | 4 358                  | 70-71             | 23 996                                   | 1 127            | 1 116 | 1 100 | 3 343     |
| 5-6                                                                       | 193 014                                  | 1 275            | 1 063   | 1 111             | 3 449                  | 71-72             | 17 628                                   | 956              | 1 044 | 993   | 2 993     |
| 6-7                                                                       | 193 202                                  | 988              | 855     | 810               | 2 753                  | 72-73             | 19 305                                   | 1 153            | 1 104 | 1 158 | 3 415     |
| 7-8                                                                       | 187 674                                  | 760              | 759     | 671               | 2 190                  | 73-74             | 16 967                                   | 1 121            | 1 108 | 981   | 3 210     |
| 8-9                                                                       | 183 281                                  | 674              | 576     | 540               | 1 790                  | 74-75             | 15 753                                   | 1 160            | 1 147 | 1 074 | 3 351     |
| 9-10                                                                      | 173 752                                  | 506              | 469     | 412               | 1 387                  | 75-76             | 16 051                                   | 1 181            | 1 253 | 1 149 | 3 583     |
| 10-11                                                                     | 175 921                                  | 448              | 426     | 393               | 1 267                  | 76-77             | 13 571                                   | 1 165            | 1 229 | 1 158 | 3 552     |
| 11-12                                                                     | 162 960                                  | 460              | 404     | 353               | 1 217                  | 77-78             | 11 729                                   | 1 082            | 1 206 | 998   | 3 286     |
| 12-13                                                                     | 162 562                                  | 442              | 374     | 430               | 1 246                  | 78-79             | 10 728                                   | 1 123            | 1 110 | 1 091 | 3 357     |
| 13-14                                                                     | 155 669                                  | 479              | 382     | 397               | 1 258                  | 79-80             | 9 433                                    | 1 153            | 1 060 | 1 084 | 3 217     |
| 14-15                                                                     | 156 163                                  | 510              | 456     | 432               | 1 428                  | 80-81             | 9 584                                    | 1 138            | 1 129 | 1 023 | 3 290     |
| 15-16                                                                     | 153 974                                  | 577              | 534     | 452               | 1 563                  | 81-82             | 6 958                                    | 1 041            | 1 036 | 928   | 3 005     |
| 16-17                                                                     | 155 614                                  | 671              | 580     | 589               | 1 840                  | 82-83             | 6 410                                    | 972              | 1 025 | 1 018 | 3 015     |
| 17-18                                                                     | 149 292                                  | 733              | 666     | 603               | 2 002                  | 83-84             | 5 547                                    | 929              | 950   | 835   | 2 714     |
| 18-19                                                                     | 148 877                                  | 778              | 748     | 740               | 2 266                  | 84-85             | 4 782                                    | 899              | 826   | 841   | 2 566     |
| 19-20                                                                     | 142 594                                  | 818              | 814     | 800               | 2 432                  | 85-86             | 3 708                                    | 737              | 765   | 666   | 2 168     |
| 20-21                                                                     | 147 492                                  | 857              | 848     | 813               | 2 518                  | 86-87             | 3 067                                    | 663              | 652   | 594   | 1 899     |
| 21-22                                                                     | 136 921                                  | 868              | 886     | 863               | 2 617                  | 87-88             | 2 678                                    | 596              | 556   | 537   | 1 689     |
| 22-23                                                                     | 113 236                                  | 965              | 936     | 884               | 2 785                  | 88-89             | 2 050                                    | 504              | 511   | 426   | 1 441     |
| 23-24                                                                     | 143 204                                  | 1 043            | 961     | 866               | 2 870                  | 89-90             | 1 590                                    | 431              | 411   | 379   | 1 221     |
| 24-25                                                                     | 145 046                                  | 1 106            | 983     | 907               | 2 996                  | 90-91             | 1 309                                    | 375              | 364   | 319   | 1 058     |
| 25-26                                                                     | 143 681                                  | 1 051            | 1 025   | 870               | 2 946                  | 91-92             | 842                                      | 263              | 304   | 259   | 826       |
| 26-27                                                                     | 131 083                                  | 1 037            | 1 021   | 928               | 3 006                  | 92-93             | 649                                      | 214              | 215   | 196   | 625       |
| 27-28                                                                     | 127 413                                  | 1 034            | 862     | 909               | 2 805                  | 93-94             | 469                                      | 168              | 176   | 153   | 499       |
| 28-29                                                                     | 126 290                                  | 1 036            | 950     | 970               | 2 956                  | 94-95             | 359                                      | 150              | 125   | 120   | 395       |
| 29-30                                                                     | 113 333                                  | 958              | 921     | 883               | 2 762                  | 95-96             | 214                                      | 92               | 110   | 101   | 303       |
| 30-31                                                                     | 133 036                                  | 955              | 1 022   | 838               | 2 815                  | 96-97             | 162                                      | 57               | 53    | 67    | 207       |
| 31-32                                                                     | 98 292                                   | 814              | 819     | 812               | 2 444                  | 97-98             | 104                                      | 45               | 54    | 39    | 138       |
| 32-33                                                                     | 109 445                                  | 931              | 917     | 913               | 2 761                  | 98-99             | 72                                       | 35               | 29    | 35    | 99        |
| 33-34                                                                     | 100 273                                  | 881              | 851     | 793               | 2 525                  | 99-100            | 53                                       | 21               | 28    | 17    | 66        |
| 34-35                                                                     | 96 898                                   | 826              | 828     | 811               | 2 465                  | 100-101           |                                          | 17               | 18    | 13    | 48        |
| 35-36                                                                     | 101 863                                  | 841              | 830     | 797               | 2 468                  | 101-102           |                                          | 3                | 4     | 6     | 13        |
| 36-37                                                                     | 88 957                                   | 768              | 778     | 744               | 2 290                  | 102-103           |                                          | 6                | 3     | 3     | 12        |
| 37-38                                                                     | 87 638                                   | 758              | 680     | 723               | 2 161                  | 103-104           |                                          | 3                | 2     | 1     | 6         |
| 38-39                                                                     | 98 521                                   | 866              | 865     | 694               | 2 425                  | 104-105           |                                          | 1                | 7     | 2     | 10        |
| 39-40                                                                     | 93 161                                   | 802              | 746     | 717               | 2 265                  | 105-106           |                                          | 4                | 0     | 3     | 7         |
| 40-41                                                                     | 103 707                                  | 907              | 923     | 836               | 2 666                  | 106-107           |                                          | 0                | 3     |       | 3         |
| 41-42                                                                     | 73 031                                   | 675              | 723     | 721               | 2 119                  | 107-108           |                                          | 0                |       |       | 0         |
| 42-43                                                                     | 84 585                                   | 818              | 810     | 776               | 2 404                  | 108-109           |                                          | 1                |       |       | 1         |
| 43-44                                                                     | 75 992                                   | 743              | 775     | 700               | 2 218                  | 109-110           |                                          | 0                |       |       | 0         |
| 44-45                                                                     | 72 050                                   | 736              | 768     | 620               | 2 124                  | 110-111           |                                          | 0                |       |       | 0         |
| 45-46                                                                     | 76 284                                   | 787              | 753     | 747               | 2 287                  | 111-112           |                                          | 0                |       |       | 0         |
| 46-47                                                                     | 63 709                                   | 692              | 676     | 687               | 2 055                  | 112-113           |                                          | 1                |       |       | 1         |
| 47-48                                                                     | 61 929                                   | 710              | 706     | 667               | 2 083                  |                   |                                          |                  |       |       |           |
| 48-49                                                                     | 62 750                                   | 733              | 696     | 701               | 2 130                  |                   |                                          |                  |       |       |           |
| 49-50                                                                     | 59 561                                   | 713              | 701     | 690               | 2 107                  |                   |                                          |                  |       |       |           |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                          |                  |         |                   |                        |                   |                                          |                  |       |       |           |
| CALENDAR<br>YEAR.                                                         | AGE INTERVALS OF ONE YEAR.               |                  |         |                   |                        | CALENDAR<br>YEAR. | AGE INTERVALS OF ONE YEAR.               |                  |       |       |           |
|                                                                           | 0-1                                      | 1-2              | 2-3     | 3-4               | 4-5                    |                   | 0-1                                      | 1-2              | 2-3   | 3-4   | 4-5       |
| 1903                                                                      | 25 611                                   | 5 927            | 2 713   | 1 692             | 1 272                  | 1905              |                                          |                  | 2 660 | 1 629 | 1 141     |
| 1904                                                                      |                                          | 6 339            | 2 729   | 1 766             | 1 265                  | 1906              |                                          |                  |       | 1 719 | 1 197     |

<sup>1</sup> Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in column 6 include only those in 1900 and 1901.

TABLE 169 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR FOREIGN-BORN WHITE MALES IN THE ORIGINAL REGISTRATION STATES:  
1901.

Unknown ages distributed.

| AGE INTERVAL.                                                             | ESTIMATED POPULATION JULY 1, 1900. | REPORTED DEATHS. |        |                   |                        | AGE INTERVAL.  | ESTIMATED POPULATION JULY 1, 1900. | REPORTED DEATHS. |       |       |           |
|---------------------------------------------------------------------------|------------------------------------|------------------|--------|-------------------|------------------------|----------------|------------------------------------|------------------|-------|-------|-----------|
|                                                                           |                                    | 1900             | 1901   | 1902 <sup>1</sup> | 1900-1902 <sup>1</sup> |                |                                    | 1900             | 1901  | 1902  | 1900-1902 |
| 1                                                                         | 2                                  | 3                | 4      | 5                 | 6                      | 7              | 8                                  | 9                | 10    | 11    | 12        |
| All ages.                                                                 | 2 277 573                          | 43 934           | 45 280 | 43 253            | 132 467                | Years.         | 54 012                             | 1 021            | 1 040 | 916   | 2 977     |
| INFANT MORTALITY BY MONTHS.                                               |                                    |                  |        |                   |                        | 50-51          | 26 106                             | 565              | 618   | 576   | 1 759     |
| Months.                                                                   |                                    |                  |        |                   |                        | 51-52          | 32 703                             | 761              | 803   | 772   | 2 336     |
| 0-1                                                                       | .....                              | 18               | 18     | .....             | 36                     | 52-53          | 27 537                             | 730              | 699   | 692   | 2 121     |
| 1-2                                                                       | .....                              | 11               | 12     | .....             | 23                     | 53-54          | 29 103                             | 751              | 722   | 705   | 2 178     |
| 2-3                                                                       | .....                              | 15               | 9      | .....             | 24                     | 54-55          | 35 066                             | 968              | 939   | 876   | 2 783     |
| 3-4                                                                       | .....                              | 18               | 12     | .....             | 30                     | 55-56          | 26 670                             | 851              | 837   | 814   | 2 502     |
| 4-5                                                                       | .....                              | 20               | 20     | .....             | 40                     | 56-57          | 22 088                             | 765              | 749   | 740   | 2 251     |
| 5-6                                                                       | .....                              | 19               | 21     | .....             | 40                     | 57-58          | 23 617                             | 826              | 811   | 812   | 2 442     |
| 6-7                                                                       | .....                              | 26               | 17     | .....             | 43                     | 58-59          | 21 121                             | 657              | 737   | 726   | 2 120     |
| 7-8                                                                       | .....                              | 28               | 16     | .....             | 44                     | 59-60          | 36 138                             | 1 186            | 1 233 | 1 152 | 3 571     |
| 8-9                                                                       | .....                              | 23               | 16     | .....             | 41                     | 60-61          | 15 478                             | 674              | 781   | 697   | 2 152     |
| 9-10                                                                      | .....                              | 25               | 18     | .....             | 41                     | 61-62          | 19 020                             | 797              | 861   | 915   | 2 573     |
| 10-11                                                                     | .....                              | 22               | 20     | .....             | 42                     | 62-63          | 17 919                             | 834              | 819   | 835   | 2 518     |
| 11-12                                                                     | .....                              | 15               | 13     | .....             | 28                     | 63-64          | 16 752                             | 847              | 821   | 816   | 2 484     |
| AGE INTERVALS OF ONE YEAR.                                                |                                    |                  |        |                   |                        | 64-65          | 22 144                             | 1 111            | 1 157 | 1 173 | 3 441     |
| Years.                                                                    |                                    |                  |        |                   |                        | 65-66          | 14 288                             | 784              | 851   | 733   | 2 368     |
| 0-1                                                                       | 1 176                              | 240              | 191    | 271               | 702                    | 66-67          | 13 979                             | 830              | 826   | 791   | 2 450     |
| 1-2                                                                       | 2 338                              | 188              | 178    | 173               | 539                    | 67-68          | 13 048                             | 844              | 890   | 867   | 2 601     |
| 2-3                                                                       | 3 154                              | 97               | 109    | 110               | 316                    | 68-69          | 11 579                             | 811              | 812   | 751   | 2 374     |
| 3-4                                                                       | 4 005                              | 104              | 84     | 89                | 277                    | 69-70          | 17 318                             | 1 178            | 1 063 | 984   | 3 225     |
| 4-5                                                                       | 4 934                              | 57               | 49     | 68                | 174                    | 70-71          | 8 444                              | 669              | 728   | 618   | 2 015     |
| 5-6                                                                       | 5 812                              | 54               | 47     | 62                | 163                    | 71-72          | 9 765                              | 743              | 811   | 910   | 2 464     |
| 6-7                                                                       | 6 334                              | 64               | 52     | 34                | 150                    | 72-73          | 8 413                              | 748              | 748   | 744   | 2 240     |
| 7-8                                                                       | 7 572                              | 47               | 43     | 42                | 132                    | 73-74          | 7 681                              | 758              | 710   | 721   | 2 192     |
| 8-9                                                                       | 9 364                              | 43               | 40     | 40                | 123                    | 74-75          | 8 833                              | 861              | 920   | 784   | 2 565     |
| 9-10                                                                      | 11 073                             | 42               | 36     | 33                | 111                    | 75-76          | 6 168                              | 737              | 732   | 730   | 2 199     |
| 10-11                                                                     | 13 327                             | 35               | 27     | 34                | 96                     | 76-77          | 4 865                              | 602              | 589   | 618   | 1 809     |
| 11-12                                                                     | 13 323                             | 29               | 43     | 41                | 113                    | 77-78          | 4 703                              | 660              | 647   | 653   | 1 960     |
| 12-13                                                                     | 15 897                             | 56               | 40     | 38                | 134                    | 78-79          | 3 721                              | 462              | 529   | 484   | 1 475     |
| 13-14                                                                     | 16 764                             | 41               | 51     | 41                | 133                    | 79-80          | 4 484                              | 668              | 613   | 619   | 1 900     |
| 14-15                                                                     | 19 815                             | 75               | 63     | 50                | 188                    | 80-81          | 2 450                              | 394              | 438   | 377   | 1 209     |
| 15-16                                                                     | 21 207                             | 59               | 74     | 60                | 193                    | 81-82          | 2 070                              | 414              | 487   | 458   | 1 359     |
| 16-17                                                                     | 23 184                             | 94               | 88     | 84                | 266                    | 82-83          | 1 531                              | 337              | 386   | 365   | 1 088     |
| 17-18                                                                     | 25 171                             | 123              | 123    | 143               | 389                    | 83-84          | 1 508                              | 333              | 335   | 296   | 961       |
| 18-19                                                                     | 30 192                             | 171              | 159    | 178               | 508                    | 84-85          | 1 323                              | 275              | 322   | 260   | 857       |
| 19-20                                                                     | 31 330                             | 186              | 172    | 195               | 553                    | 85-86          | 806                                | 242              | 235   | 213   | 690       |
| 20-21                                                                     | 38 130                             | 211              | 212    | 210               | 633                    | 86-87          | 703                                | 204              | 192   | 179   | 575       |
| 21-22                                                                     | 38 155                             | 249              | 275    | 217               | 741                    | 87-88          | 581                                | 138              | 145   | 135   | 418       |
| 22-23                                                                     | 43 325                             | 323              | 306    | 298               | 927                    | 88-89          | 403                                | 111              | 133   | 106   | 350       |
| 23-24                                                                     | 44 151                             | 264              | 336    | 303               | 903                    | 89-90          | 389                                | 123              | 113   | 117   | 353       |
| 24-25                                                                     | 48 636                             | 351              | 346    | 296               | 993                    | 90-91          | 177                                | 52               | 59    | 61    | 172       |
| 25-26                                                                     | 54 695                             | 315              | 445    | 370               | 1 160                  | 91-92          | 135                                | 55               | 71    | 62    | 188       |
| 26-27                                                                     | 50 183                             | 364              | 348    | 346               | 1 058                  | 92-93          | 94                                 | 45               | 36    | 40    | 121       |
| 27-28                                                                     | 52 262                             | 378              | 425    | 335               | 1 138                  | 93-94          | 68                                 | 23               | 28    | 28    | 79        |
| 28-29                                                                     | 60 431                             | 455              | 506    | 422               | 1 383                  | 94-95          | 80                                 | 32               | 15    | 28    | 75        |
| 29-30                                                                     | 51 559                             | 385              | 388    | 341               | 1 114                  | 95-96          | 42                                 | 24               | 13    | 21    | 58        |
| 30-31                                                                     | 78 299                             | 588              | 574    | 572               | 1 731                  | 96-97          | 32                                 | 7                | 11    | 15    | 33        |
| 31-32                                                                     | 42 025                             | 326              | 400    | 331               | 1 060                  | 97-98          | 30                                 | 14               | 11    | 10    | 35        |
| 32-33                                                                     | 56 147                             | 491              | 521    | 510               | 1 522                  | 98-99          | 24                                 | 11               | 18    | 9     | 38        |
| 33-34                                                                     | 51 841                             | 480              | 460    | 449               | 1 389                  | 99-100         |                                    |                  |       |       |           |
| 34-35                                                                     | 53 580                             | 459              | 487    | 429               | 1 375                  | 100-101        |                                    | 12               | 7     | 6     | 25        |
| 35-36                                                                     | 70 125                             | 784              | 838    | 750               | 2 372                  | 101-102        |                                    | 3                | 9     | 5     | 17        |
| 36-37                                                                     | 53 150                             | 535              | 564    | 531               | 1 630                  | 102-103        |                                    | 1                | 8     | 7     | 19        |
| 37-38                                                                     | 47 839                             | 505              | 568    | 501               | 1 574                  | 103-104        |                                    | 4                | 2     | 2     | 8         |
| 38-39                                                                     | 56 577                             | 640              | 628    | 667               | 1 935                  | 104-105        |                                    | 3                | 3     | 2     | 8         |
| 39-40                                                                     | 47 425                             | 514              | 507    | 506               | 1 527                  | 105-106        | Ages 100 and over, 70              | 2                | 2     | 1     | 5         |
| 40-41                                                                     | 70 562                             | 872              | 957    | 864               | 2 693                  | 106-107        |                                    | 0                | 1     | 0     | 1         |
| 41-42                                                                     | 33 001                             | 409              | 464    | 439               | 1 312                  | 107-108        |                                    | 2                | 3     | 0     | 5         |
| 42-43                                                                     | 43 816                             | 537              | 655    | 691               | 1 943                  | 108-109        |                                    |                  | 0     | 1     | 1         |
| 43-44                                                                     | 35 611                             | 499              | 524    | 492               | 1 515                  | 109-110        |                                    |                  | 0     | 0     | 0         |
| 44-45                                                                     | 35 257                             | 480              | 533    | 559               | 1 572                  | 110-111        |                                    |                  | 1     | 0     | 1         |
| 45-46                                                                     | 48 611                             | 816              | 906    | 827               | 2 549                  | 111-112        |                                    |                  | 1     | 1     | 2         |
| 46-47                                                                     | 30 900                             | 483              | 516    | 515               | 1 514                  |                |                                    |                  |       |       |           |
| 47-48                                                                     | 30 689                             | 533              | 513    | 493               | 1 539                  |                |                                    |                  |       |       |           |
| 48-49                                                                     | 36 077                             | 659              | 605    | 624               | 1 888                  |                |                                    |                  |       |       |           |
| 49-50                                                                     | 33 263                             | 571              | 560    | 511               | 1 642                  |                |                                    |                  |       |       |           |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                    |                  |        |                   |                        |                |                                    |                  |       |       |           |
| CALENDAR YEAR.                                                            | AGE INTERVALS OF ONE YEAR.         |                  |        |                   |                        | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR.         |                  |       |       |           |
|                                                                           | 0-1                                | 1-2              | 2-3    | 3-4               | 4-5                    |                | 0-1                                | 1-2              | 2-3   | 3-4   | 4-5       |
| 1903                                                                      | 232                                | 107              | 118    | 100               | 77                     | 1905           |                                    |                  | 100   | 104   | 89        |
| 1904                                                                      | .....                              | 175              | 108    | 107               | 86                     | 1906           | .....                              | .....            | ..... | 160   | 92        |

<sup>1</sup> Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in column 6 include only those in 1900 and 1901.

TABLE 170 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

## LIFE TABLE FOR FOREIGN-BORN WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

| AGE INTERVAL.                                                             | ESTIMATED POPULATION JULY 1, 1900. | REPORTED DEATHS. |        |                   |                        | AGE INTERVAL.  | ESTIMATED POPULATION JULY 1, 1900. | REPORTED DEATHS. |       |       |           |
|---------------------------------------------------------------------------|------------------------------------|------------------|--------|-------------------|------------------------|----------------|------------------------------------|------------------|-------|-------|-----------|
|                                                                           |                                    | 1900             | 1901   | 1902 <sup>1</sup> | 1900-1902 <sup>1</sup> |                |                                    | 1900             | 1901  | 1902  | 1900-1902 |
| 1                                                                         | 2                                  | 3                | 4      | 5                 | 6                      | 7              | 8                                  | 9                | 10    | 11    | 12        |
| All ages.                                                                 | 2 193 300                          | 40 739           | 40 923 | 38 031            | 119 693                | Years.         |                                    |                  |       |       |           |
| INFANT MORTALITY BY MONTHS.                                               |                                    |                  |        |                   |                        | 50-51          | 51 405                             | 803              | 809   | 672   | 2 284     |
| Months.                                                                   |                                    |                  |        |                   |                        | 51-52          | 23 178                             | 475              | 550   | 430   | 1 455     |
| 0-1                                                                       |                                    | 8                | 19     |                   | 27                     | 52-53          | 29 413                             | 668              | 638   | 626   | 1 932     |
| 1-2                                                                       |                                    | 7                | 7      |                   | 14                     | 53-54          | 25 432                             | 597              | 571   | 534   | 1 702     |
| 2-3                                                                       |                                    | 10               | 13     |                   | 23                     | 54-55          | 27 092                             | 631              | 610   | 631   | 1 872     |
| 3-4                                                                       |                                    | 8                | 13     |                   | 21                     | 55-56          | 33 908                             | 788              | 777   | 653   | 2 216     |
| 4-5                                                                       |                                    | 7                | 13     |                   | 20                     | 56-57          | 24 832                             | 701              | 745   | 644   | 2 090     |
| 5-6                                                                       |                                    | 18               | 14     |                   | 32                     | 57-58          | 20 919                             | 633              | 630   | 636   | 1 899     |
| 6-7                                                                       |                                    | 19               | 21     |                   | 40                     | 58-59          | 23 129                             | 731              | 762   | 722   | 2 215     |
| 7-8                                                                       |                                    | 15               | 13     |                   | 28                     | 59-60          | 20 906                             | 648              | 607   | 591   | 1 846     |
| 8-9                                                                       |                                    | 21               | 11     |                   | 35                     | 60-61          | 39 085                             | 1 154            | 1 190 | 1 088 | 3 432     |
| 9-10                                                                      |                                    | 20               | 15     |                   | 35                     | 61-62          | 14 712                             | 641              | 696   | 607   | 1 944     |
| 10-11                                                                     |                                    | 21               | 12     |                   | 33                     | 62-63          | 19 151                             | 747              | 805   | 824   | 2 378     |
| 11-12                                                                     |                                    | 15               | 13     |                   | 28                     | 63-64          | 17 738                             | 798              | 860   | 717   | 2 375     |
| AGE INTERVALS OF ONE YEAR.                                                |                                    |                  |        |                   |                        | 64-65          | 17 313                             | 768              | 786   | 761   | 2 315     |
| Years.                                                                    |                                    |                  |        |                   |                        | 65-66          | 24 454                             | 1 135            | 1 158 | 1 012 | 3 305     |
| 0-1                                                                       | 1 210                              | 169              | 167    | 191               | 527                    | 66-67          | 14 597                             | 742              | 771   | 694   | 2 207     |
| 1-2                                                                       | 2 266                              | 183              | 131    | 150               | 464                    | 67-68          | 14 117                             | 817              | 827   | 800   | 2 444     |
| 2-3                                                                       | 3 106                              | 93               | 82     | 116               | 291                    | 68-69          | 13 773                             | 935              | 919   | 818   | 2 672     |
| 3-4                                                                       | 4 071                              | 72               | 53     | 91                | 216                    | 69-70          | 11 892                             | 742              | 756   | 719   | 2 217     |
| 4-5                                                                       | 4 792                              | 60               | 42     | 65                | 167                    | 70-71          | 19 417                             | 1 283            | 1 305 | 1 169 | 3 757     |
| 5-6                                                                       | 5 781                              | 64               | 42     | 43                | 149                    | 71-72          | 7 880                              | 668              | 707   | 629   | 2 001     |
| 6-7                                                                       | 6 292                              | 42               | 38     | 49                | 129                    | 72-73          | 9 479                              | 846              | 805   | 833   | 2 484     |
| 7-8                                                                       | 7 666                              | 42               | 36     | 35                | 113                    | 73-74          | 8 170                              | 753              | 802   | 735   | 2 290     |
| 8-9                                                                       | 9 398                              | 26               | 36     | 35                | 97                     | 74-75          | 7 514                              | 741              | 757   | 656   | 2 154     |
| 9-10                                                                      | 11 409                             | 39               | 31     | 28                | 101                    | 75-76          | 9 555                              | 944              | 957   | 874   | 2 775     |
| 10-11                                                                     | 13 192                             | 41               | 30     | 30                | 101                    | 76-77          | 6 045                              | 702              | 709   | 667   | 2 078     |
| 11-12                                                                     | 13 490                             | 42               | 43     | 32                | 117                    | 77-78          | 4 661                              | 533              | 635   | 548   | 1 716     |
| 12-13                                                                     | 15 806                             | 32               | 45     | 25                | 102                    | 78-79          | 4 692                              | 665              | 619   | 633   | 1 917     |
| 13-14                                                                     | 16 938                             | 47               | 45     | 48                | 140                    | 79-80          | 3 708                              | 496              | 500   | 393   | 1 389     |
| 14-15                                                                     | 19 943                             | 65               | 66     | 56                | 187                    | 80-81          | 5 221                              | 735              | 767   | 691   | 2 193     |
| 15-16                                                                     | 21 912                             | 71               | 70     | 67                | 208                    | 81-82          | 2 265                              | 396              | 454   | 347   | 1 197     |
| 16-17                                                                     | 26 113                             | 107              | 98     | 82                | 287                    | 82-83          | 2 065                              | 401              | 436   | 422   | 1 259     |
| 17-18                                                                     | 29 565                             | 129              | 102    | 109               | 340                    | 83-84          | 1 685                              | 328              | 336   | 343   | 1 007     |
| 18-19                                                                     | 37 129                             | 146              | 172    | 138               | 456                    | 84-85          | 1 604                              | 337              | 367   | 313   | 1 017     |
| 19-20                                                                     | 39 421                             | 199              | 169    | 182               | 550                    | 85-86          | 1 532                              | 315              | 342   | 322   | 979       |
| 20-21                                                                     | 48 634                             | 266              | 228    | 206               | 700                    | 86-87          | 1 001                              | 240              | 262   | 219   | 721       |
| 21-22                                                                     | 43 186                             | 258              | 224    | 226               | 708                    | 87-88          | 787                                | 198              | 200   | 190   | 588       |
| 22-23                                                                     | 51 113                             | 312              | 318    | 297               | 927                    | 88-89          | 606                                | 181              | 178   | 149   | 508       |
| 23-24                                                                     | 51 521                             | 293              | 276    | 311               | 880                    | 89-90          | 450                                | 129              | 125   | 120   | 374       |
| 24-25                                                                     | 53 923                             | 327              | 333    | 310               | 970                    | 90-91          | 594                                | 179              | 183   | 165   | 527       |
| 25-26                                                                     | 57 170                             | 368              | 335    | 317               | 1 020                  | 91-92          | 184                                | 62               | 86    | 47    | 195       |
| 26-27                                                                     | 50 736                             | 378              | 328    | 340               | 1 046                  | 92-93          | 189                                | 61               | 73    | 90    | 224       |
| 27-28                                                                     | 50 542                             | 312              | 382    | 339               | 1 063                  | 93-94          | 137                                | 56               | 51    | 44    | 151       |
| 28-29                                                                     | 56 864                             | 450              | 425    | 410               | 1 285                  | 94-95          | 111                                | 33               | 41    | 36    | 110       |
| 29-30                                                                     | 48 484                             | 432              | 379    | 323               | 1 134                  | 95-96          | 133                                | 53               | 39    | 38    | 130       |
| 30-31                                                                     | 65 293                             | 467              | 442    | 440               | 1 349                  | 96-97          | 77                                 | 32               | 27    | 30    | 89        |
| 31-32                                                                     | 37 402                             | 330              | 333    | 285               | 948                    | 97-98          | 49                                 | 22               | 23    | 25    | 70        |
| 32-33                                                                     | 49 828                             | 457              | 444    | 471               | 1 372                  | 98-99          | 54                                 | 19               | 24    | 15    | 58        |
| 33-34                                                                     | 45 319                             | 438              | 392    | 334               | 1 164                  | 99-100         | 40                                 | 7                | 13    | 7     | 27        |
| 34-35                                                                     | 46 972                             | 428              | 414    | 406               | 1 248                  | 100-101        |                                    | 19               | 10    | 8     | 37        |
| 35-36                                                                     | 56 928                             | 553              | 528    | 426               | 1 507                  | 101-102        |                                    | 3                | 6     | 2     | 11        |
| 36-37                                                                     | 46 355                             | 502              | 492    | 454               | 1 448                  | 102-103        |                                    | 2                | 2     | 7     | 11        |
| 37-38                                                                     | 42 205                             | 414              | 420    | 429               | 1 263                  | 103-104        |                                    | 9                | 1     | 2     | 12        |
| 38-39                                                                     | 48 068                             | 523              | 541    | 512               | 1 576                  | 104-105        |                                    | 3                | 3     | 1     | 7         |
| 39-40                                                                     | 40 864                             | 425              | 404    | 419               | 1 248                  | 105-106        |                                    | 2                | 3     | 0     | 5         |
| 40-41                                                                     | 56 666                             | 578              | 591    | 585               | 1 754                  | 106-107        |                                    | 3                | 1     | 1     | 5         |
| 41-42                                                                     | 27 824                             | 322              | 396    | 391               | 1 112                  | 107-108        |                                    | 1                | 0     | 2     | 3         |
| 42-43                                                                     | 36 210                             | 472              | 463    | 436               | 1 371                  | 108-109        |                                    | 1                | 2     | 0     | 3         |
| 43-44                                                                     | 30 111                             | 375              | 381    | 372               | 1 128                  | 109-110        |                                    | 0                | 0     | 0     | 0         |
| 44-45                                                                     | 31 603                             | 410              | 380    | 396               | 1 186                  | 110-111        |                                    | 1                | 0     | 0     | 1         |
| 45-46                                                                     | 41 190                             | 581              | 506    | 470               | 1 557                  | 111-112        |                                    |                  | 0     | 0     | 0         |
| 46-47                                                                     | 28 050                             | 410              | 390    | 344               | 1 144                  | 112-113        |                                    |                  | 1     | 1     | 2         |
| 47-48                                                                     | 28 143                             | 431              | 422    | 383               | 1 236                  | 113-114        |                                    |                  | 0     | 1     | 1         |
| 48-49                                                                     | 34 181                             | 453              | 492    | 476               | 1 421                  | 114-115        |                                    |                  | 1     |       | 1         |
| 49-50                                                                     | 31 806                             | 464              | 413    | 394               | 1 301                  |                |                                    |                  |       |       |           |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                    |                  |        |                   |                        |                |                                    |                  |       |       |           |
| CALENDAR YEAR.                                                            | AGE INTERVALS OF ONE YEAR.         |                  |        |                   |                        | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR.         |                  |       |       |           |
|                                                                           | 0-1                                | 1-2              | 2-3    | 3-4               | 4-5                    |                | 0-1                                | 1-2              | 2-3   | 3-4   | 4-5       |
| 1903                                                                      | 202                                | 178              | 118    | 107               | 79                     | 1905           |                                    |                  | 101   | 112   | 64        |
| 1904                                                                      |                                    | 141              | 100    | 95                | 82                     | 1906           |                                    |                  |       | 126   | 102       |

<sup>1</sup> Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in column 6 include only those in 1900 and 1901.

## UNITED STATES LIFE TABLES.

TABLE 171 POPULATION AND MORTALITY STATISTICS UPON WHICH ARE BASED THE  
LIFE TABLES FOR CITIES OF THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

| AGE<br>INTERVAL.                                                          | WHITE MALES.                             |                  |         |                   |                             | WHITE FEMALES.                           |                  |        |                   |                        |
|---------------------------------------------------------------------------|------------------------------------------|------------------|---------|-------------------|-----------------------------|------------------------------------------|------------------|--------|-------------------|------------------------|
|                                                                           | Estimated<br>population<br>July 1, 1900. | REPORTED DEATHS. |         |                   |                             | Estimated<br>population<br>July 1, 1900. | REPORTED DEATHS. |        |                   |                        |
|                                                                           |                                          | 1900             | 1901    | 1902 <sup>1</sup> | 1900-1902 <sup>1</sup>      |                                          | 1900             | 1901   | 1902 <sup>1</sup> | 1900-1902 <sup>1</sup> |
| 1                                                                         | 2                                        | 3                | 4       | 5                 | 6                           | 7                                        | 8                | 9      | 10                | 11                     |
| All ages.                                                                 | 5 103 726                                | 101 480          | 100 967 | 99 631            | 302 078                     | 5 293 168                                | 92 443           | 90 330 | 88 025            | 270 798                |
| INFANT MORTALITY BY MONTHS.                                               |                                          |                  |         |                   | INFANT MORTALITY BY MONTHS. |                                          |                  |        |                   |                        |
| Months.                                                                   |                                          |                  |         |                   |                             |                                          |                  |        |                   |                        |
| 0-1                                                                       |                                          | 7 931            | 7 412   |                   | 15 343                      |                                          | 5 724            | 5 470  |                   | 11 194                 |
| 1-2                                                                       |                                          | 2 185            | 1 985   |                   | 4 170                       |                                          | 1 702            | 1 512  |                   | 3 214                  |
| 2-3                                                                       |                                          | 2 132            | 1 793   |                   | 3 925                       |                                          | 1 656            | 1 520  |                   | 3 176                  |
| 3-4                                                                       |                                          | 1 969            | 1 789   |                   | 3 758                       |                                          | 1 611            | 1 431  |                   | 3 042                  |
| 4-5                                                                       |                                          | 1 769            | 1 569   |                   | 3 338                       |                                          | 1 423            | 1 316  |                   | 2 739                  |
| 5-6                                                                       |                                          | 1 668            | 1 494   |                   | 3 162                       |                                          | 1 341            | 1 143  |                   | 2 484                  |
| 6-7                                                                       |                                          | 1 598            | 1 398   |                   | 2 996                       |                                          | 1 304            | 1 158  |                   | 2 462                  |
| 7-8                                                                       |                                          | 1 344            | 1 194   |                   | 2 538                       |                                          | 1 162            | 981    |                   | 2 143                  |
| 8-9                                                                       |                                          | 1 301            | 1 154   |                   | 2 455                       |                                          | 1 095            | 931    |                   | 2 026                  |
| 9-10                                                                      |                                          | 1 168            | 1 021   |                   | 2 189                       |                                          | 995              | 860    |                   | 1 855                  |
| 10-11                                                                     |                                          | 1 046            | 883     |                   | 1 929                       |                                          | 878              | 809    |                   | 1 687                  |
| 11-12                                                                     |                                          | 937              | 841     |                   | 1 778                       |                                          | 877              | 755    |                   | 1 632                  |
| AGE INTERVALS OF ONE YEAR.                                                |                                          |                  |         |                   | AGE INTERVALS OF ONE YEAR.  |                                          |                  |        |                   |                        |
| Years.                                                                    |                                          |                  |         |                   |                             |                                          |                  |        |                   |                        |
| 0-1                                                                       | 120 517                                  | 25 048           | 22 530  | 22 871            | 70 449                      | 118 676                                  | 19 768           | 17 886 | 18 279            | 55 933                 |
| 1-2                                                                       | 106 187                                  | 5 816            | 5 139   | 5 298             | 16 253                      | 104 197                                  | 5 187            | 4 575  | 4 711             | 14 473                 |
| 2-3                                                                       | 111 860                                  | 2 574            | 2 241   | 2 357             | 7 172                       | 110 919                                  | 2 300            | 1 986  | 2 165             | 6 451                  |
| 3-4                                                                       | 112 489                                  | 1 605            | 1 458   | 1 389             | 4 452                       | 111 281                                  | 1 485            | 1 320  | 1 321             | 4 126                  |
| 4-5                                                                       | 109 783                                  | 1 083            | 1 095   | 1 078             | 3 256                       | 108 975                                  | 1 113            | 1 016  | 978               | 3 107                  |
| 0-4                                                                       | 560 836                                  | 36 126           | 32 463  | 32 093            | 101 582                     | 554 048                                  | 29 853           | 26 783 | 27 454            | 84 090                 |
| 5-9                                                                       | 517 695                                  | 2 807            | 2 798   | 2 820             | 8 425                       | 516 646                                  | 2 705            | 2 611  | 2 502             | 7 818                  |
| 10-14                                                                     | 452 208                                  | 1 373            | 1 393   | 1 317             | 4 083                       | 459 436                                  | 1 333            | 1 280  | 1 287             | 3 900                  |
| 15-19                                                                     | 437 507                                  | 2 228            | 2 262   | 2 161             | 6 651                       | 485 729                                  | 2 192            | 2 212  | 2 139             | 6 543                  |
| 20-24                                                                     | 489 464                                  | 3 696            | 3 732   | 3 597             | 11 025                      | 569 537                                  | 3 696            | 3 626  | 3 468             | 10 790                 |
| 25-29                                                                     | 515 057                                  | 4 586            | 4 808   | 4 389             | 13 783                      | 546 262                                  | 4 430            | 4 211  | 4 220             | 12 861                 |
| 30-34                                                                     | 470 338                                  | 4 856            | 5 128   | 4 958             | 14 942                      | 457 923                                  | 4 127            | 4 197  | 4 090             | 12 414                 |
| 35-39                                                                     | 419 368                                  | 5 196            | 5 366   | 5 279             | 15 841                      | 404 737                                  | 4 193            | 4 138  | 3 970             | 12 301                 |
| 40-44                                                                     | 337 554                                  | 4 918            | 5 398   | 5 269             | 15 585                      | 320 455                                  | 3 808            | 3 985  | 3 850             | 11 613                 |
| 45-49                                                                     | 254 927                                  | 4 532            | 4 939   | 4 727             | 14 218                      | 255 607                                  | 3 725            | 3 703  | 3 561             | 10 989                 |
| 50-54                                                                     | 211 516                                  | 4 987            | 5 196   | 5 139             | 15 322                      | 214 774                                  | 4 161            | 4 379  | 4 076             | 12 616                 |
| 55-59                                                                     | 151 696                                  | 4 950            | 5 220   | 5 128             | 15 298                      | 160 393                                  | 4 320            | 4 443  | 4 214             | 12 977                 |
| 60-64                                                                     | 116 502                                  | 5 015            | 5 426   | 5 332             | 15 773                      | 132 233                                  | 4 823            | 5 158  | 4 811             | 14 792                 |
| 65-69                                                                     | 75 762                                   | 4 781            | 5 033   | 4 997             | 14 811                      | 91 338                                   | 4 888            | 5 047  | 4 846             | 14 781                 |
| 70-74                                                                     | 49 322                                   | 4 362            | 4 381   | 4 421             | 13 164                      | 61 796                                   | 4 820            | 4 948  | 4 665             | 14 433                 |
| 75-79                                                                     | 27 035                                   | 3 415            | 3 580   | 3 488             | 10 483                      | 35 861                                   | 4 022            | 4 143  | 3 843             | 12 008                 |
| 80-84                                                                     | 12 045                                   | 2 216            | 2 391   | 2 185             | 6 792                       | 17 645                                   | 2 995            | 3 055  | 2 878             | 8 928                  |
| 85-89                                                                     | 3 873                                    | 1 046            | 1 059   | 1 025             | 3 130                       | 6 500                                    | 1 561            | 1 605  | 1 427             | 4 593                  |
| 90-94                                                                     | 824                                      | 292              | 310     | 344               | 946                         | 1 829                                    | 602              | 627    | 547               | 1 776                  |
| 95-99                                                                     | 175                                      | 66               | 66      | 54                | 186                         | 372                                      | 160              | 153    | 155               | 468                    |
| 100 and over                                                              | 22                                       | 12               | 18      | 8                 | 38                          | 47                                       | 29               | 26     | 22                | 77                     |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                          |                  |         |                   |                             |                                          |                  |        |                   |                        |
| CALENDAR<br>YEAR.                                                         | AGE INTERVALS OF ONE YEAR.               |                  |         |                   |                             | AGE INTERVALS OF ONE YEAR.               |                  |        |                   |                        |
|                                                                           | 0-1                                      | 1-2              | 2-3     | 3-4               | 4-5                         | 0-1                                      | 1-2              | 2-3    | 3-4               | 4-5                    |
| 1903                                                                      | 22 150                                   | 4 878            | 2 142   | 1 417             |                             | 17 530                                   | 4 419            | 2 023  | 1 278             |                        |
| 1904                                                                      |                                          | 5 145            | 2 261   | 1 436             | 1 093                       |                                          | 4 699            | 2 011  | 1 332             | 963                    |
| 1905                                                                      |                                          |                  | 2 131   | 1 272             | 952                         |                                          |                  | 1 934  | 1 216             | 838                    |
| 1906                                                                      |                                          |                  |         | 1 479             | 1 004                       |                                          |                  |        | 1 340             | 951                    |

<sup>1</sup> Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in columns 6 and 11 include only those in 1900 and 1901.



TABLE 172 POPULATION AND MORTALITY STATISTICS UPON WHICH ARE BASED THE  
LIFE TABLES FOR RURAL PART OF THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

| AGE<br>INTERVAL.                                                          | WHITE MALES.                             |                  |        |                   |                        | WHITE FEMALES.                           |                  |        |                   |                        |
|---------------------------------------------------------------------------|------------------------------------------|------------------|--------|-------------------|------------------------|------------------------------------------|------------------|--------|-------------------|------------------------|
|                                                                           | Estimated<br>population<br>July 1, 1900. | REPORTED DEATHS. |        |                   |                        | Estimated<br>population<br>July 1, 1900. | REPORTED DEATHS. |        |                   |                        |
|                                                                           |                                          | 1900             | 1901   | 1902 <sup>1</sup> | 1900-1902 <sup>1</sup> |                                          | 1900             | 1901   | 1902 <sup>1</sup> | 1900-1902 <sup>1</sup> |
| 1                                                                         | 2                                        | 3                | 4      | 5                 | 6                      | 7                                        | 8                | 9      | 10                | 11                     |
| Allages.                                                                  | 4 694 517                                | 72 251           | 68 563 | 63 756            | 204 570                | 4 487 246                                | 66 636           | 62 088 | 57 138            | 185 862                |
| INFANT MORTALITY BY MONTHS.                                               |                                          |                  |        |                   |                        | INFANT MORTALITY BY MONTHS.              |                  |        |                   |                        |
| Months.                                                                   |                                          |                  |        |                   |                        |                                          |                  |        |                   |                        |
| 0-1                                                                       |                                          | 4 930            | 4 584  |                   | 9 514                  |                                          | 3 658            | 3 315  |                   | 6 973                  |
| 1-2                                                                       |                                          | 1 220            | 1 086  |                   | 2 306                  |                                          | 998              | 789    |                   | 1 787                  |
| 2-3                                                                       |                                          | 1 051            | 963    |                   | 2 014                  |                                          | 878              | 719    |                   | 1 597                  |
| 3-4                                                                       |                                          | 1 033            | 861    |                   | 1 894                  |                                          | 845              | 643    |                   | 1 488                  |
| 4-5                                                                       |                                          | 913              | 724    |                   | 1 637                  |                                          | 782              | 585    |                   | 1 367                  |
| 5-6                                                                       |                                          | 802              | 630    |                   | 1 432                  |                                          | 678              | 515    |                   | 1 193                  |
| 6-7                                                                       |                                          | 714              | 578    |                   | 1 292                  |                                          | 632              | 499    |                   | 1 131                  |
| 7-8                                                                       |                                          | 647              | 478    |                   | 1 125                  |                                          | 483              | 398    |                   | 881                    |
| 8-9                                                                       |                                          | 598              | 433    |                   | 1 031                  |                                          | 511              | 376    |                   | 887                    |
| 9-10                                                                      |                                          | 526              | 397    |                   | 923                    |                                          | 435              | 378    |                   | 813                    |
| 10-11                                                                     |                                          | 458              | 354    |                   | 812                    |                                          | 381              | 298    |                   | 679                    |
| 11-12                                                                     |                                          | 442              | 327    |                   | 769                    |                                          | 386              | 267    |                   | 653                    |
| AGE INTERVALS OF ONE YEAR.                                                |                                          |                  |        |                   |                        | AGE INTERVALS OF ONE YEAR.               |                  |        |                   |                        |
| Years.                                                                    |                                          |                  |        |                   |                        |                                          |                  |        |                   |                        |
| 0-1                                                                       | 97 760                                   | 13 334           | 11 415 | 10 858            | 35 607                 | 94 792                                   | 10 667           | 8 782  | 8 418             | 27 867                 |
| 1-2                                                                       | 80 026                                   | 2 792            | 2 294  | 2 021             | 7 107                  | 88 360                                   | 2 460            | 1 938  | 1 801             | 6 199                  |
| 2-3                                                                       | 93 167                                   | 1 180            | 967    | 887               | 3 034                  | 90 750                                   | 1 131            | 933    | 884               | 2 948                  |
| 3-4                                                                       | 94 686                                   | 775              | 619    | 548               | 1 942                  | 92 697                                   | 701              | 617    | 546               | 1 864                  |
| 4-5                                                                       | 94 742                                   | 561              | 495    | 422               | 1 478                  | 92 564                                   | 664              | 464    | 390               | 1 418                  |
| 0-4                                                                       | 470 387                                  | 18 642           | 15 790 | 14 736            | 49 168                 | 459 163                                  | 15 523           | 12 734 | 12 039            | 40 296                 |
| 5-9                                                                       | 467 673                                  | 1 754            | 1 501  | 1 332             | 4 587                  | 454 823                                  | 1 711            | 1 397  | 1 232             | 4 340                  |
| 10-14                                                                     | 447 822                                  | 1 184            | 1 159  | 994               | 3 337                  | 433 217                                  | 1 263            | 991    | 909               | 3 163                  |
| 15-19                                                                     | 430 560                                  | 1 877            | 1 731  | 1 562             | 5 170                  | 418 792                                  | 2 037            | 1 741  | 1 623             | 5 401                  |
| 20-24                                                                     | 405 945                                  | 2 439            | 2 280  | 2 019             | 6 738                  | 394 245                                  | 2 599            | 2 367  | 2 215             | 7 181                  |
| 25-29                                                                     | 376 517                                  | 2 299            | 2 223  | 2 045             | 6 567                  | 359 337                                  | 2 678            | 2 417  | 2 069             | 7 162                  |
| 30-34                                                                     | 344 796                                  | 2 179            | 2 047  | 1 897             | 6 123                  | 324 835                                  | 2 400            | 2 264  | 2 013             | 6 677                  |
| 35-39                                                                     | 321 604                                  | 2 275            | 2 143  | 1 967             | 6 385                  | 299 823                                  | 2 259            | 2 146  | 1 945             | 6 350                  |
| 40-44                                                                     | 296 229                                  | 2 351            | 2 325  | 2 136             | 6 812                  | 271 324                                  | 2 228            | 2 225  | 1 986             | 6 439                  |
| 45-49                                                                     | 251 040                                  | 2 456            | 2 471  | 2 319             | 7 246                  | 231 996                                  | 2 249            | 2 085  | 1 998             | 6 332                  |
| 50-54                                                                     | 225 597                                  | 2 722            | 2 805  | 2 708             | 8 233                  | 206 963                                  | 2 586            | 2 479  | 2 318             | 7 383                  |
| 55-59                                                                     | 185 628                                  | 3 331            | 3 350  | 3 117             | 9 798                  | 179 098                                  | 3 140            | 3 004  | 2 748             | 8 892                  |
| 60-64                                                                     | 156 101                                  | 4 159            | 4 143  | 3 886             | 12 188                 | 151 769                                  | 3 652            | 3 716  | 3 415             | 10 783                 |
| 65-69                                                                     | 123 661                                  | 5 213            | 5 194  | 4 867             | 15 274                 | 119 067                                  | 4 426            | 4 463  | 4 108             | 12 997                 |
| 70-74                                                                     | 90 335                                   | 5 769            | 5 785  | 5 510             | 17 064                 | 84 313                                   | 4 988            | 4 947  | 4 663             | 14 598                 |
| 75-79                                                                     | 57 385                                   | 5 881            | 5 674  | 5 375             | 16 930                 | 54 312                                   | 5 022            | 5 165  | 4 675             | 14 862                 |
| 80-84                                                                     | 28 015                                   | 4 514            | 4 732  | 4 315             | 13 561                 | 28 476                                   | 4 181            | 4 271  | 3 883             | 12 335                 |
| 85-89                                                                     | 9 666                                    | 2 299            | 2 305  | 2 096             | 6 700                  | 11 082                                   | 2 433            | 2 397  | 2 165             | 6 995                  |
| 90-94                                                                     | 2 133                                    | 731              | 728    | 681               | 2 140                  | 3 014                                    | 959              | 991    | 884               | 2 834                  |
| 95-99                                                                     | 338                                      | 144              | 138    | 163               | 445                    | 586                                      | 253              | 247    | 219               | 719                    |
| 100 and over                                                              | 85                                       | 32               | 39     | 33                | 104                    | 111                                      | 51               | 41     | 31                | 123                    |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                          |                  |        |                   |                        |                                          |                  |        |                   |                        |
| CALENDAR<br>YEAR.                                                         | AGE INTERVALS OF ONE YEAR.               |                  |        |                   |                        | AGE INTERVALS OF ONE YEAR.               |                  |        |                   |                        |
|                                                                           | 0-1                                      | 1-2              | 2-3    | 3-4               | 4-5                    | 0-1                                      | 1-2              | 2-3    | 3-4               | 4-5                    |
| 1903                                                                      | 10 639                                   | 1 872            | 899    | 559               | 450                    | 8 283                                    | 1 686            | 808    | 521               | 379                    |
| 1904                                                                      |                                          | 1 999            | 910    | 594               | 460                    |                                          | 1 781            | 818    | 529               | 370                    |
| 1905                                                                      |                                          |                  | 905    | 595               | 400                    |                                          |                  | 827    | 525               | 370                    |
| 1906                                                                      |                                          |                  |        | 531               | 423                    |                                          |                  |        | 505               | 348                    |

<sup>1</sup> Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in columns 6 and 11 include only those in 1900 and 1901.

TABLE 173 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1901 TO 1910.

Unknown ages undistributed in enumerated population, but distributed in mean population and in deaths.

| AGE<br>INTERVAL. | POPULATION.                 |                               |                     | REPORTED<br>DEATHS,<br>1901-1910. | AGE<br>INTERVAL. | POPULATION.                 |                               |                     | REPORTED<br>DEATHS,<br>1901-1910. |
|------------------|-----------------------------|-------------------------------|---------------------|-----------------------------------|------------------|-----------------------------|-------------------------------|---------------------|-----------------------------------|
|                  | Enumerated<br>June 1, 1900. | Enumerated<br>April 15, 1910. | Mean,<br>1901-1910. |                                   |                  | Enumerated<br>June 1, 1900. | Enumerated<br>April 15, 1910. | Mean,<br>1901-1910. |                                   |
| 1                | 2                           | 3                             | 4                   | 5                                 | 6                | 7                           | 8                             | 9                   | 10                                |
| All ages.        | 9 780 453                   | 11 888 480                    | 10 939 400          | 1 786 656                         | Years.           | 58 170                      | 70 036                        |                     | 18 098                            |
| 0-1              | 217 432                     | 253 162                       |                     | 359 834                           | 59-60            | 78 035                      | 92 285                        |                     | 21 146                            |
| 1-2              | 195 463                     | 225 159                       |                     | 73 215                            | 61-62            | 44 724                      | 53 998                        | 315 718             | 17 522                            |
| 2-3              | 204 155                     | 246 129                       | 903 195             | 31 852                            | 62-63            | 51 988                      | 65 368                        |                     | 21 356                            |
| 3-4              | 206 359                     | 240 888                       |                     | 19 752                            | 63-64            | 50 365                      | 59 535                        |                     | 21 400                            |
| 4-5              | 203 773                     | 231 671                       |                     | 14 184                            | 64-65            | 46 321                      | 56 464                        |                     | 21 230                            |
| 5-6              | 199 843                     | 224 802                       |                     | 11 149                            | 65-66            | 51 727                      | 67 706                        |                     | 25 918                            |
| 6-7              | 201 859                     | 222 724                       |                     | 9 370                             | 66-67            | 40 227                      | 47 343                        | 240 647             | 20 591                            |
| 7-8              | 198 388                     | 219 606                       | 1 062 146           | 7 691                             | 67-68            | 39 225                      | 45 457                        |                     | 21 630                            |
| 8-9              | 194 144                     | 212 088                       |                     | 6 623                             | 68-69            | 35 259                      | 45 669                        |                     | 23 280                            |
| 9-10             | 187 778                     | 207 576                       |                     | 5 745                             | 69-70            | 32 060                      | 41 454                        |                     | 21 191                            |
| 10-11            | 190 414                     | 211 339                       |                     | 5 381                             | 70-71            | 39 396                      | 47 955                        |                     | 25 163                            |
| 11-12            | 177 393                     | 198 585                       | 982 282             | 5 113                             | 71-72            | 25 288                      | 28 880                        | 167 498             | 19 713                            |
| 12-13            | 179 169                     | 216 486                       |                     | 4 844                             | 72-73            | 27 864                      | 34 098                        |                     | 22 958                            |
| 13-14            | 171 760                     | 206 862                       |                     | 4 850                             | 73-74            | 24 513                      | 29 571                        |                     | 22 353                            |
| 14-15            | 177 793                     | 211 249                       |                     | 5 387                             | 74-75            | 21 999                      | 26 774                        |                     | 21 702                            |
| 15-16            | 174 510                     | 197 501                       |                     | 5 624                             | 75-76            | 23 145                      | 27 340                        |                     | 22 861                            |
| 16-17            | 177 358                     | 216 506                       | 981 672             | 6 860                             | 76-77            | 18 436                      | 22 442                        | 103 251             | 21 352                            |
| 17-18            | 171 479                     | 214 439                       |                     | 8 206                             | 77-78            | 15 724                      | 17 715                        |                     | 19 013                            |
| 18-19            | 172 780                     | 226 762                       |                     | 9 522                             | 78-79            | 14 474                      | 16 372                        |                     | 19 491                            |
| 19-20            | 167 971                     | 220 973                       |                     | 10 559                            | 79-80            | 12 305                      | 13 977                        | 13 250              | 17 403                            |
| 20-21            | 173 791                     | 223 354                       |                     | 10 846                            | 80-81            | 12 486                      | 14 170                        | 13 438              | 17 899                            |
| 21-22            | 176 235                     | 227 400                       | 1 017 194           | 11 724                            | 81-82            | 8 693                       | 9 155                         | 8 965               | 11 338                            |
| 22-23            | 177 536                     | 231 563                       |                     | 12 470                            | 82-83            | 7 435                       | 9 098                         | 8 365               | 11 770                            |
| 23-24            | 178 686                     | 227 433                       |                     | 12 277                            | 83-84            | 5 967                       | 7 409                         | 6 773               | 13 081                            |
| 24-25            | 184 816                     | 231 222                       |                     | 12 368                            | 84-85            | 5 321                       | 6 554                         | 6 010               | 12 267                            |
| 25-26            | 187 956                     | 234 378                       |                     | 13 016                            | 85-86            | 4 343                       | 5 248                         | 4 850               | 10 401                            |
| 26-27            | 175 414                     | 223 017                       | 1 033 677           | 13 062                            | 86-87            | 3 011                       | 4 156                         | 3 618               | 8 887                             |
| 27-28            | 176 375                     | 210 611                       |                     | 13 238                            | 87-88            | 2 639                       | 3 334                         | 3 027               | 7 326                             |
| 28-29            | 184 492                     | 232 877                       |                     | 14 669                            | 88-89            | 2 018                       | 2 441                         | 2 255               | 5 930                             |
| 29-30            | 163 377                     | 191 781                       |                     | 12 549                            | 89-90            | 1 461                       | 1 980                         | 1 750               | 4 757                             |
| 30-31            | 209 408                     | 252 182                       |                     | 15 906                            | 90-91            | 1 167                       | 1 692                         | 1 459               | 4 023                             |
| 31-32            | 138 209                     | 159 527                       | 013 358             | 12 053                            | 91-92            | 687                         | 921                           | 817                 | 2 628                             |
| 32-33            | 163 986                     | 199 661                       |                     | 15 227                            | 92-93            | 481                         | 678                           | 590                 | 2 100                             |
| 33-34            | 151 405                     | 178 207                       |                     | 14 327                            | 93-94            | 360                         | 515                           | 446                 | 1 631                             |
| 34-35            | 148 727                     | 182 914                       |                     | 14 513                            | 94-95            | 245                         | 347                           | 302                 | 1 170                             |
| 35-36            | 171 103                     | 217 001                       |                     | 18 676                            | 95-96            | 206                         | 289                           | 252                 | 882                               |
| 36-37            | 139 808                     | 176 686                       | 851 640             | 15 082                            | 96-97            | 116                         | 141                           | 130                 | 608                               |
| 37-38            | 133 036                     | 161 917                       |                     | 11 722                            | 97-98            | 82                          | 103                           | 93                  | 430                               |
| 38-39            | 153 747                     | 196 054                       |                     | 17 440                            | 98-99            | 61                          | 70                            | 66                  | 328                               |
| 39-40            | 139 652                     | 160 878                       |                     | 14 571                            | 99-100           | 47                          | 46                            | 47                  | 206                               |
| 40-41            | 176 092                     | 223 356                       |                     | 20 940                            | 100-101          |                             | 43                            | 49                  | 147                               |
| 41-42            | 106 824                     | 124 221                       | 749 414             | 13 283                            | 101-102          |                             | 8                             | 9                   | 69                                |
| 42-43            | 129 696                     | 171 530                       |                     | 17 508                            | 102-103          |                             | 9                             | 10                  | 61                                |
| 43-44            | 110 304                     | 137 915                       |                     | 15 117                            | 103-104          |                             | 6                             | 7                   | 29                                |
| 44-45            | 107 959                     | 131 017                       |                     | 14 755                            | 104-105          |                             | 2                             | 2                   | 33                                |
| 45-46            | 128 265                     | 167 217                       |                     | 20 197                            | 105-106          |                             | 7                             | 8                   | 26                                |
| 46-47            | 94 734                      | 119 720                       | 606 330             | 14 995                            | 106-107          |                             | 3                             | 4                   | 6                                 |
| 47-48            | 92 552                      | 118 322                       |                     | 15 605                            | 107-108          |                             | 0                             | 0                   | 12                                |
| 48-49            | 98 106                      | 137 310                       |                     | 17 218                            | 108-109          |                             | 1                             | 1                   | 9                                 |
| 49-50            | 92 685                      | 123 463                       |                     | 15 532                            | 109-110          |                             | 1                             | 1                   | 6                                 |
| 50-51            | 122 595                     | 163 169                       |                     | 21 622                            | 110-111          |                             | 1                             | 1                   | 6                                 |
| 51-52            | 74 637                      | 93 677                        | 533 381             | 14 560                            | 111-112          |                             | 1                             | 1                   | 4                                 |
| 52-53            | 86 171                      | 120 179                       |                     | 18 107                            | 112-113          |                             |                               |                     | 1                                 |
| 53-54            | 75 322                      | 98 162                        |                     | 17 002                            | 113-114          |                             |                               |                     | 1                                 |
| 54-55            | 76 116                      | 98 309                        |                     | 17 742                            | 114-115          |                             |                               |                     | 2                                 |
| 55-56            | 84 067                      | 99 123                        |                     | 19 589                            | 115-116          |                             |                               |                     | 3                                 |
| 56-57            | 70 875                      | 88 373                        | 401 311             | 18 502                            | 116-117          |                             |                               |                     | 0                                 |
| 57-58            | 61 576                      | 74 299                        |                     | 17 813                            | 117-118          |                             |                               |                     | 0                                 |
| 58-59            | 61 151                      | 78 772                        |                     | 19 288                            | 118-119          |                             |                               |                     | 0                                 |
|                  |                             |                               |                     |                                   | 119-120          |                             |                               |                     | 2                                 |
|                  |                             |                               |                     |                                   | 120-121          |                             |                               |                     | 1                                 |
|                  |                             |                               |                     |                                   | 121-122          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 122-123          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 123-124          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 124-125          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 125-126          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 126-127          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 127-128          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 128-129          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 129-130          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 130-131          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 131-132          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 132-133          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 133-134          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 134-135          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 135-136          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 136-137          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 137-138          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 138-139          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 139-140          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 140-141          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 141-142          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 142-143          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 143-144          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 144-145          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 145-146          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 146-147          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 147-148          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 148-149          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 149-150          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 150-151          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 151-152          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 152-153          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 153-154          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 154-155          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 155-156          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 156-157          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 157-158          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 158-159          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 159-160          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 160-161          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 161-162          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 162-163          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 163-164          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 164-165          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 165-166          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 166-167          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 167-168          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 168-169          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 169-170          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 170-171          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 171-172          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 172-173          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 173-174          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 174-175          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 175-176          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 176-177          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 177-178          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 178-179          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 179-180          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 180-181          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 181-182          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 182-183          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 183-184          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 184-185          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 185-186          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 186-187          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 187-188          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 188-189          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 189-190          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 190-191          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 191-192          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 192-193          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 193-194          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 194-195          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 195-196          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 196-197          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 197-198          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 198-199          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 199-200          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | Unknown ages     | 24 665                      | 18 317                        |                     |                                   |

TABLE 174 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1901 TO 1910.

Unknown ages undistributed in enumerated population, but distributed in mean population and in deaths.

| AGE<br>INTERVAL. | POPULATION.                 |                               |                     | REPORTED<br>DEATHS,<br>1901-1910. | AGE<br>INTERVAL. | POPULATION.                 |                               |                     | REPORTED<br>DEATHS,<br>1901-1910. |
|------------------|-----------------------------|-------------------------------|---------------------|-----------------------------------|------------------|-----------------------------|-------------------------------|---------------------|-----------------------------------|
|                  | Enumerated<br>June 1, 1900. | Enumerated<br>April 15, 1910. | Mean,<br>1901-1910. |                                   |                  | Enumerated<br>June 1, 1900. | Enumerated<br>April 15, 1910. | Mean,<br>1901-1910. |                                   |
| 1                | 2                           | 3                             | 4                   | 5                                 | 6                | 7                           | 8                             | 9                   | 10                                |
| All ages.        | 9 764 368                   | 11 666 100                    | 10 812 512          | 1 578 069                         |                  |                             |                               |                     |                                   |
| Years.           |                             |                               |                     |                                   | Years.           |                             |                               |                     |                                   |
| 0-1              | 212 913                     | 246 894                       |                     | 283 617                           | 59-60            | 59 827                      | 68 190                        |                     | 15 312                            |
| 1-2              | 192 081                     | 220 149                       |                     | 64 936                            | 60-61            | 83 656                      | 100 143                       |                     | 21 540                            |
| 2-3              | 201 087                     | 240 446                       | 884 552             | 28 596                            | 61-62            | 45 561                      | 52 220                        | 322 470             | 15 327                            |
| 3-4              | 203 444                     | 236 536                       |                     | 18 229                            | 62-63            | 53 615                      | 61 552                        |                     | 18 761                            |
|                  |                             |                               |                     |                                   | 63-64            | 51 521                      | 59 810                        |                     | 18 943                            |
| 4-5              | 201 067                     | 227 068                       |                     | 13 140                            | 64-65            | 48 850                      | 57 991                        |                     | 19 071                            |
| 5-6              | 193 375                     | 221 160                       |                     | 10 492                            | 65-66            | 55 915                      | 72 008                        |                     | 23 778                            |
| 6-7              | 199 073                     | 220 577                       | 1 016 588           | 8 730                             | 66-67            | 42 314                      | 48 315                        | 252 371             | 18 617                            |
| 7-8              | 194 928                     | 215 149                       |                     | 7 237                             | 67-68            | 40 162                      | 46 060                        |                     | 19 782                            |
| 8-9              | 192 272                     | 210 272                       |                     | 6 048                             | 68-69            | 37 925                      | 49 065                        |                     | 21 530                            |
|                  |                             |                               |                     |                                   | 69-70            | 34 286                      | 41 883                        |                     | 19 710                            |
| 9-10             | 184 770                     | 202 691                       |                     | 5 037                             | 70-71            | 43 270                      | 51 363                        |                     | 25 903                            |
| 10-11            | 188 625                     | 208 958                       |                     | 4 678                             | 71-72            | 25 424                      | 29 494                        | 177 124             | 18 564                            |
| 11-12            | 176 004                     | 197 363                       | 971 316             | 4 380                             | 72-73            | 28 689                      | 36 242                        |                     | 22 069                            |
| 12-13            | 177 908                     | 213 633                       |                     | 4 600                             | 73-74            | 25 054                      | 31 432                        |                     | 21 171                            |
| 13-14            | 172 162                     | 205 386                       |                     | 4 777                             | 74-75            | 23 191                      | 28 900                        |                     | 20 390                            |
|                  |                             |                               |                     |                                   | 75-76            | 25 521                      | 32 091                        |                     | 23 502                            |
| 14-15            | 175 651                     | 207 645                       |                     | 5 335                             | 76-77            | 19 551                      | 25 219                        | 113 683             | 21 167                            |
| 15-16            | 175 315                     | 200 352                       |                     | 5 699                             | 77-78            | 16 336                      | 19 390                        |                     | 18 785                            |
| 16-17            | 181 198                     | 222 241                       | 1 001 107           | 6 722                             | 78-79            | 15 369                      | 19 044                        |                     | 19 385                            |
| 17-18            | 178 306                     | 215 781                       |                     | 7 708                             | 79-80            | 13 097                      | 15 520                        | 14 447              | 17 349                            |
| 18-19            | 185 433                     | 238 902                       |                     | 9 206                             | 80-81            | 14 700                      | 17 573                        | 16 327              | 19 881                            |
|                  |                             |                               |                     |                                   | 81-82            | 9 195                       | 10 356                        | 9 845               | 11 785                            |
| 19-20            | 181 455                     | 223 530                       |                     | 9 738                             | 82-83            | 8 449                       | 10 725                        | 9 713               | 15 404                            |
| 20-21            | 195 551                     | 243 829                       |                     | 10 423                            | 83-84            | 7 210                       | 8 984                         | 8 196               | 13 969                            |
| 21-22            | 179 552                     | 217 504                       | 1 059 811           | 10 611                            | 84-85            | 6 366                       | 8 111                         | 7 335               | 13 384                            |
| 22-23            | 193 779                     | 236 001                       |                     | 11 818                            | 85-86            | 5 331                       | 6 905                         | 6 205               | 12 097                            |
| 23-24            | 193 658                     | 231 294                       |                     | 11 941                            | 86-87            | 4 056                       | 5 209                         | 4 696               | 10 145                            |
|                  |                             |                               |                     |                                   | 87-88            | 3 453                       | 4 260                         | 3 902               | 8 897                             |
| 24-25            | 198 386                     | 228 902                       |                     | 12 218                            | 88-89            | 2 646                       | 3 361                         | 3 043               | 7 332                             |
| 25-26            | 200 333                     | 234 765                       |                     | 12 204                            | 89-90            | 2 033                       | 2 641                         | 2 371               | 6 043                             |
| 26-27            | 181 347                     | 215 241                       | 1 028 587           | 12 510                            | 90-91            | 1 896                       | 2 341                         | 2 143               | 5 751                             |
| 27-28            | 177 494                     | 197 953                       |                     | 12 360                            | 91-92            | 1 023                       | 1 256                         | 1 152               | 3 647                             |
| 28-29            | 182 679                     | 222 781                       |                     | 13 447                            | 92-93            | 835                         | 1 071                         | 966                 | 3 171                             |
| 29-30            | 161 397                     | 179 611                       |                     | 12 019                            | 93-94            | 604                         | 789                           | 707                 | 2 456                             |
| 30-31            | 197 771                     | 238 921                       |                     | 13 375                            | 94-95            | 468                         | 548                           | 513                 | 1 791                             |
| 31-32            | 135 313                     | 150 528                       | 871 841             | 10 695                            | 95-96            | 348                         | 485                           | 424                 | 1 489                             |
| 32-33            | 158 825                     | 192 365                       |                     | 13 294                            | 96-97            | 239                         | 254                           | 247                 | 1 090                             |
| 33-34            | 145 183                     | 168 547                       |                     | 12 274                            | 97-98            | 153                         | 144                           | 148                 | 776                               |
|                  |                             |                               |                     |                                   | 98-99            | 120                         | 129                           | 128                 | 561                               |
| 34-35            | 143 466                     | 175 215                       |                     | 12 334                            | 99-100           | 93                          | 85                            | 89                  | 317                               |
| 35-36            | 158 273                     | 202 838                       |                     | 13 553                            | 100-101          |                             | 66                            | 71                  | 274                               |
| 36-37            | 134 871                     | 170 618                       | 812 973             | 12 619                            | 101-102          |                             | 18                            | 19                  | 128                               |
| 37-38            | 129 420                     | 154 943                       |                     | 12 032                            | 102-103          |                             | 13                            | 14                  | 91                                |
| 38-39            | 116 111                     | 189 987                       |                     | 14 050                            | 103-104          |                             | 9                             | 10                  | 61                                |
|                  |                             |                               |                     |                                   | 104-105          |                             | 9                             | 9                   | 51                                |
| 39-40            | 133 588                     | 152 294                       |                     | 12 128                            | 105-106          |                             | 6                             | 6                   | 41                                |
| 40-41            | 159 828                     | 208 447                       | 702 424             | 10 426                            | 106-107          |                             | 5                             | 5                   | 22                                |
| 41-42            | 100 512                     | 115 482                       |                     | 13 289                            | 107-108          |                             | 5                             | 6                   | 11                                |
| 42-43            | 120 381                     | 160 154                       |                     | 11 647                            | 108-109          |                             | 1                             | 1                   | 18                                |
| 43-44            | 105 742                     | 131 541                       |                     | 11 318                            | 109-110          |                             | 0                             | 0                   | 6                                 |
| 44-45            | 103 300                     | 124 653                       |                     | 13 684                            | 110-111          |                             | 1                             | 1                   | 2                                 |
| 45-46            | 117 031                     | 153 138                       | 577 015             | 11 750                            | 111-112          |                             | 1                             | 1                   | 2                                 |
| 46-47            | 91 413                      | 115 285                       |                     | 12 133                            | 112-113          |                             | 0                             | 0                   | 7                                 |
| 47-48            | 89 732                      | 112 778                       |                     | 13 339                            | 113-114          |                             | 0                             | 0                   | 3                                 |
| 48-49            | 96 566                      | 134 421                       |                     | 12 444                            | 114-115          |                             | 1                             | 1                   | 2                                 |
| 49-50            | 91 023                      | 115 550                       |                     | 16 329                            | 115-116          |                             | 1                             | 1                   | 2                                 |
| 50-51            | 119 527                     | 158 638                       | 505 445             | 11 956                            | 116-117          |                             |                               |                     |                                   |
| 51-52            | 71 302                      | 85 844                        |                     | 14 613                            | 117-118          |                             |                               |                     |                                   |
| 52-53            | 81 489                      | 109 954                       |                     | 13 821                            | 118-119          |                             |                               |                     |                                   |
| 53-54            | 72 633                      | 91 113                        |                     | 14 025                            | 119-120          |                             |                               |                     |                                   |
| 54-55            | 75 251                      | 93 874                        |                     | 15 580                            | 120-121          |                             |                               |                     |                                   |
| 55-56            | 84 005                      | 96 356                        |                     | 15 272                            | 121-122          |                             |                               |                     |                                   |
| 56-57            | 70 006                      | 83 432                        | 392 462             | 15 047                            | 122-123          |                             |                               |                     |                                   |
| 57-58            | 61 763                      | 70 360                        |                     | 16 430                            | 123-124          |                             |                               |                     |                                   |
| 58-59            | 62 958                      | 79 056                        |                     |                                   | 124-125          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 125-126          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | Unknown ages     | 12 173                      | 9 953                         |                     |                                   |

INFANT MORTALITY BY MONTHS DURING FIRST YEAR OF LIFE IN CALENDAR YEARS 1901 AND 1905 TO 1910.<sup>1</sup>

| Months..... | 0-1    | 1-2    | 2-3    | 3-4    | 4-5    | 5-6    | 6-7    | 7-8   | 8-9   | 9-10  | 10-11 | 11-12 |
|-------------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|
| Deaths..... | 71 353 | 19 020 | 17 107 | 15 438 | 13 438 | 11 832 | 11 619 | 9 937 | 9 608 | 8 904 | 7 801 | 7 545 |

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

| CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |       |       |       |       | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |       |       |       |       |
|----------------|----------------------------|-------|-------|-------|-------|----------------|----------------------------|-------|-------|-------|-------|
|                | 0-1                        | 1-2   | 2-3   | 3-4   | 4-5   |                | 0-1                        | 1-2   | 2-3   | 3-4   | 4-5   |
| 1901           | 26 668                     |       |       |       |       | 1908           | 29 369                     | 6 306 | 2 687 | 1 787 | 1 237 |
| 1902           | 26 697                     | 6 512 |       |       |       | 1909           | 28 832                     | 6 829 | 2 765 | 1 701 | 1 243 |
| 1903           | 25 813                     | 6 105 | 2 831 |       |       | 1910           | 30 869                     | 6 733 | 3 011 | 1 902 | 1 295 |
| 1904           | 27 501                     | 6 480 | 2 829 | 1 861 |       | 1911           | 27 912                     | 5 997 | 2 527 | 1 658 | 1 190 |
| 1905           | 28 293                     | 6 108 | 2 761 | 1 741 | 1 208 | 1912           |                            | 5 691 | 2 482 | 1 459 | 1 096 |
| 1906           | 30 224                     | 6 958 | 2 969 | 1 845 | 1 299 | 1913           |                            |       | 2 667 | 1 741 | 1 253 |
| 1907           | 29 347                     | 6 304 | 2 777 | 1 790 | 1 294 |                |                            |       |       |       |       |

<sup>1</sup> Infant mortality by months during the first year of life is not available in calendar years 1902 to 1904.

TABLE 175 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR NEGRO MALES IN THE ORIGINAL REGISTRATION STATES: 1901 TO 1910.

Unknown ages undistributed in enumerated population, but distributed in mean population and in deaths.

| AGE<br>INTERVAL. | POPULATION.                 |                               |                     | REPORTED<br>DEATHS,<br>1901-1910. | AGE<br>INTERVAL. | POPULATION.                 |                               |                     | REPORTED<br>DEATHS,<br>1901-1910. |
|------------------|-----------------------------|-------------------------------|---------------------|-----------------------------------|------------------|-----------------------------|-------------------------------|---------------------|-----------------------------------|
|                  | Enumerated<br>June 1, 1900. | Enumerated<br>April 15, 1910. | Mean,<br>1901-1910. |                                   |                  | Enumerated<br>June 1, 1900. | Enumerated<br>April 15, 1910. | Mean,<br>1901-1910. |                                   |
| 1                | 2                           | 3                             | 4                   | 5                                 | 6                | 7                           | 8                             | 9                   | 10                                |
| All ages.        | 185 211                     | 223 085                       | 206 061             | 55 456                            | Years            |                             |                               |                     |                                   |
| Years            |                             |                               |                     |                                   | 59-60            | 875                         | 938                           |                     | 415                               |
| 0-1              | 3 563                       | 4 079                         |                     | 12 851                            | 60-61            | 1 708                       | 1 843                         |                     | 828                               |
| 1-2              | 3 016                       | 3 262                         |                     | 2 974                             | 61-62            | 451                         | 572                           | 4 617               | 339                               |
| 2-3              | 3 265                       | 3 730                         | 14 047              | 1 228                             | 62-63            | 587                         | 791                           |                     | 418                               |
| 3-4              | 3 206                       | 3 670                         |                     | 663                               | 63-64            | 586                         | 761                           |                     | 421                               |
|                  |                             |                               |                     |                                   | 64-65            | 483                         | 677                           | 592                 | 405                               |
| 4-5              | 3 189                       | 3 531                         |                     | 432                               | 65-66            | 921                         | 1 251                         | 1 108               | 761                               |
| 5-6              | 3 188                       | 3 374                         |                     | 299                               | 66-67            | 419                         | 560                           | 499                 | 358                               |
| 6-7              | 3 148                       | 3 449                         | 16 395              | 262                               | 67-68            | 421                         | 509                           | 472                 | 366                               |
| 7-8              | 3 063                       | 3 361                         |                     | 229                               | 68-69            | 377                         | 561                           | 482                 | 376                               |
| 8-9              | 3 074                       | 3 136                         |                     | 210                               | 69-70            | 323                         | 497                           | 420                 | 279                               |
| 9-10             | 2 951                       | 3 215                         |                     | 210                               | 70-71            | 613                         | 840                           | 755                 | 622                               |
| 10-11            | 3 031                       | 3 244                         |                     | 183                               | 71-72            | 221                         | 225                           | 224                 | 207                               |
| 11-12            | 2 803                       | 2 931                         | 15 349              | 204                               | 72-73            | 232                         | 373                           | 320                 | 285                               |
| 12-13            | 2 045                       | 3 296                         |                     | 177                               | 73-74            | 221                         | 311                           | 271                 | 253                               |
| 13-14            | 2 868                       | 3 126                         |                     | 175                               | 74-75            | 183                         | 253                           | 222                 | 248                               |
| 14-15            | 2 957                       | 3 370                         |                     | 210                               | 75-76            | 328                         | 381                           | 350                 | 419                               |
| 15-16            | 3 020                       | 2 992                         |                     | 247                               | 76-77            | 152                         | 197                           | 178                 | 215                               |
| 16-17            | 3 137                       | 3 304                         | 16 378              | 313                               | 77-78            | 118                         | 161                           | 143                 | 176                               |
| 17-18            | 3 128                       | 3 309                         |                     | 349                               | 78-79            | 146                         | 159                           | 153                 | 210                               |
| 18-19            | 3 583                       | 3 714                         |                     | 422                               | 79-80            | 124                         | 133                           | 130                 | 149                               |
| 19-20            | 3 853                       | 3 889                         |                     | 480                               | 80-81            | 173                         | 225                           | 202                 | 320                               |
| 20-21            | 4 112                       | 4 007                         |                     | 531                               | 81-82            | 49                          | 83                            | 68                  | 80                                |
| 21-22            | 4 351                       | 4 695                         | 22 398              | 559                               | 82-83            | 77                          | 80                            | 79                  | 129                               |
| 22-23            | 4 646                       | 4 989                         |                     | 635                               | 83-84            | 58                          | 60                            | 59                  | 102                               |
| 23-24            | 4 820                       | 5 129                         |                     | 699                               | 84-85            | 57                          | 53                            | 55                  | 111                               |
| 24-25            | 4 886                       | 5 543                         |                     | 700                               | 85-86            | 71                          | 67                            | 70                  | 136                               |
| 25-26            | 5 044                       | 6 158                         |                     | 751                               | 86-87            | 52                          | 44                            | 48                  | 65                                |
| 26-27            | 4 241                       | 5 323                         | 26 052              | 677                               | 87-88            | 33                          | 39                            | 36                  | 50                                |
| 27-28            | 4 250                       | 5 181                         |                     | 652                               | 88-89            | 33                          | 28                            | 30                  | 62                                |
| 28-29            | 4 503                       | 6 184                         |                     | 799                               | 89-90            | 24                          | 21                            | 22                  | 56                                |
| 29-30            | 3 747                       | 5 080                         |                     | 637                               | 90-91            | 27                          | 36                            | 32                  | 76                                |
| 30-31            | 5 362                       | 6 911                         |                     | 868                               | 91-92            | 5                           | 13                            | 9                   | 25                                |
| 31-32            | 2 696                       | 3 660                         | 21 521              | 496                               | 92-93            | 4                           | 11                            | 8                   | 31                                |
| 32-33            | 3 207                       | 4 778                         |                     | 668                               | 93-94            | 6                           | 5                             | 6                   | 28                                |
| 33-34            | 2 757                       | 3 979                         |                     | 623                               | 94-95            | 6                           | 6                             | 6                   | 20                                |
| 34-35            | 2 911                       | 4 300                         |                     | 656                               | 95-96            | 12                          | 18                            | 15                  | 40                                |
| 35-36            | 4 081                       | 6 069                         |                     | 921                               | 96-97            | 8                           | 3                             | 5                   | 16                                |
| 36-37            | 2 468                       | 3 990                         | 19 494              | 598                               | 97-98            | 3                           | 1                             | 2                   | 19                                |
| 37-38            | 2 412                       | 3 678                         |                     | 600                               | 98-99            | 6                           | 5                             | 6                   | 15                                |
| 38-39            | 3 148                       | 4 929                         |                     | 720                               | 99-100           | 3                           | 2                             | 3                   | 8                                 |
| 39-40            | 2 816                       | 3 957                         |                     | 567                               | 100-101          |                             | 7                             | 7                   | 32                                |
| 40-41            | 4 306                       | 5 802                         |                     | 911                               | 101-102          |                             | 2                             | 2                   | 5                                 |
| 41-42            | 1 688                       | 2 297                         | 15 826              | 459                               | 102-103          |                             | 2                             | 2                   | 5                                 |
| 42-43            | 2 367                       | 3 495                         |                     | 605                               | 103-104          |                             | 2                             | 2                   | 10                                |
| 43-44            | 1 848                       | 2 434                         |                     | 532                               | 104-105          |                             | 1                             | 1                   | 4                                 |
| 44-45            | 1 744                       | 2 202                         |                     | 445                               | 105-106          |                             | 3                             | 3                   | 8                                 |
| 45-46            | 2 873                       | 3 650                         |                     | 789                               | 106-107          |                             | 2                             | 2                   | 5                                 |
| 46-47            | 1 557                       | 1 751                         | 10 873              | 404                               | 107-108          |                             |                               |                     | 4                                 |
| 47-48            | 1 532                       | 1 804                         |                     | 467                               | 108-109          |                             |                               |                     | 3                                 |
| 48-49            | 1 835                       | 2 460                         |                     | 575                               | 109-110          |                             |                               |                     | 2                                 |
| 49-50            | 1 742                       | 2 318                         |                     | 527                               | 110-111          |                             |                               |                     | 4                                 |
| 50-51            | 3 057                       | 3 491                         |                     | 921                               | 111-112          |                             |                               |                     | 0                                 |
| 51-52            | 1 116                       | 1 325                         | 9 639               | 408                               | 112-113          |                             |                               |                     | 1                                 |
| 52-53            | 1 496                       | 1 905                         |                     | 557                               | 113-114          |                             |                               |                     | 2                                 |
| 53-54            | 1 180                       | 1 371                         |                     | 469                               | 114-115          |                             |                               |                     | 0                                 |
| 54-55            | 1 301                       | 1 503                         |                     | 509                               | 115-116          |                             |                               |                     | 1                                 |
| 55-56            | 1 605                       | 1 747                         |                     | 644                               | 116-117          |                             |                               |                     | 1                                 |
| 56-57            | 1 207                       | 1 308                         | 6 369               | 519                               | 117-118          |                             |                               |                     | 0                                 |
| 57-58            | 861                         | 1 037                         |                     | 448                               | 118-119          |                             |                               |                     | 0                                 |
| 58-59            | 933                         | 1 092                         |                     | 477                               | 119-120          |                             |                               |                     | 1                                 |
|                  |                             |                               |                     |                                   | 120-121          |                             |                               |                     | 1                                 |
|                  |                             |                               |                     |                                   | 121-122          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 122-123          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 123-124          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 124-125          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 125-126          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 126-127          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 127-128          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 128-129          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 129-130          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 130-131          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 131-132          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 132-133          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 133-134          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 134-135          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | 135-136          |                             |                               |                     |                                   |
|                  |                             |                               |                     |                                   | Unknown ages     | 1 208                       | 737                           |                     |                                   |

INFANT MORTALITY BY MONTHS DURING FIRST YEAR OF LIFE IN CALENDAR YEARS 1901 AND 1905 TO 1910.\*

| Months..... | 0-1   | 1-2 | 2-3 | 3-4 | 4-5 | 5-6 | 6-7 | 7-8 | 8-9 | 9-10 | 10-11 | 11-12 |
|-------------|-------|-----|-----|-----|-----|-----|-----|-----|-----|------|-------|-------|
| Deaths..... | 3 008 | 798 | 755 | 680 | 640 | 515 | 581 | 456 | 409 | 389  | 315   | 340   |

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

| CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |     |     |     |     | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |     |     |     |     |
|----------------|----------------------------|-----|-----|-----|-----|----------------|----------------------------|-----|-----|-----|-----|
|                | 0-1                        | 1-2 | 2-3 | 3-4 | 4-5 |                | 0-1                        | 1-2 | 2-3 | 3-4 | 4-5 |
| 1901           | 1 245                      |     |     |     |     | 1908           | 1 238                      | 279 | 110 | 62  | 34  |
| 1902           | 1 316                      | 256 |     |     |     | 1909           | 1 204                      | 260 | 120 | 67  | 35  |
| 1903           | 1 277                      | 331 | 122 |     |     | 1910           | 1 243                      | 297 | 129 | 63  | 42  |
| 1904           | 1 340                      | 323 | 131 | 78  |     | 1911           | 1 083                      | 273 | 120 | 56  | 34  |
| 1905           | 1 362                      | 307 | 137 | 76  | 52  | 1912           |                            | 250 | 97  | 50  | 40  |
| 1906           | 1 310                      | 333 | 136 | 63  | 47  | 1913           |                            |     | 111 | 66  | 38  |
| 1907           | 1 289                      | 390 | 103 | 61  | 36  |                |                            |     |     |     |     |

\* Infant mortality by months during the first year of life is not available in calendar years 1902 to 1904.

**TABLE 176** POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR NEGRO FEMALES IN THE ORIGINAL REGISTRATION STATES: 1901 TO 1910.

Unknown ages undistributed in enumerated population, but distributed in mean population and in deaths.

| AGE<br>INTERVAL. | POPULATION.                 |                               |                     | REPORTED<br>DEATHS,<br>1901-1910. | AGE<br>INTERVAL. | POPULATION.                 |                               |                     | REPORTED<br>DEATHS,<br>1901-1910. |
|------------------|-----------------------------|-------------------------------|---------------------|-----------------------------------|------------------|-----------------------------|-------------------------------|---------------------|-----------------------------------|
|                  | Enumerated<br>June 1, 1900. | Enumerated<br>April 15, 1910. | Mean,<br>1901-1910. |                                   |                  | Enumerated<br>June 1, 1900. | Enumerated<br>April 15, 1910. | Mean,<br>1901-1910. |                                   |
| 1                | 2                           | 3                             | 4                   | 5                                 | 6                | 7                           | 8                             | 9                   | 10                                |
| All ages.        | 202 987                     | 239 053                       | 222 906             | 51 917                            | Years.           |                             |                               |                     |                                   |
| Years.           |                             |                               |                     |                                   | 59-60            | 787                         | 1 010                         |                     | 382                               |
| 0-1              | 3 633                       | 3 978                         |                     | 10 875                            | 60-61            | 1 796                       | 2 195                         |                     | 794                               |
| 1-2              | 3 226                       | 3 464                         |                     | 2 707                             | 61-62            | 448                         | 520                           | 4 765               | 317                               |
| 2-3              | 3 482                       | 3 870                         | 14 594              | 1 201                             | 62-63            | 600                         | 767                           |                     | 349                               |
| 3-4              | 3 324                       | 3 925                         |                     | 672                               | 63-64            | 529                         | 731                           |                     | 351                               |
| 4-5              | 3 302                       | 3 685                         |                     | 463                               | 64-65            | 527                         | 629                           |                     | 319                               |
| 5-6              | 3 169                       | 3 626                         |                     | 340                               | 65-66            | 983                         | 1 276                         |                     | 683                               |
| 6-7              | 3 319                       | 3 533                         | 17 291              | 292                               | 66-67            | 363                         | 492                           | 3 090               | 286                               |
| 7-8              | 3 338                       | 3 520                         |                     | 260                               | 67-68            | 426                         | 475                           |                     | 316                               |
| 8-9              | 3 283                       | 3 518                         |                     | 244                               | 68-69            | 396                         | 516                           |                     | 346                               |
| 9-10             | 3 148                       | 3 297                         |                     | 237                               | 69-70            | 390                         | 461                           |                     | 290                               |
| 10-11            | 3 207                       | 3 513                         |                     | 190                               | 70-71            | 844                         | 923                           |                     | 626                               |
| 11-12            | 3 137                       | 3 097                         | 16 604              | 213                               | 71-72            | 194                         | 258                           | 2 149               | 190                               |
| 12-13            | 3 239                       | 3 680                         |                     | 258                               | 72-73            | 308                         | 394                           |                     | 243                               |
| 13-14            | 3 196                       | 3 449                         |                     | 261                               | 73-74            | 207                         | 285                           |                     | 268                               |
| 14-15            | 3 294                       | 3 662                         |                     | 295                               | 74-75            | 229                         | 270                           | 253                 | 205                               |
| 15-16            | 3 412                       | 3 370                         |                     | 364                               | 75-76            | 388                         | 467                           | 433                 | 398                               |
| 16-17            | 3 811                       | 3 850                         | 19 403              | 420                               | 76-77            | 206                         | 241                           | 226                 | 196                               |
| 17-18            | 3 888                       | 3 880                         |                     | 463                               | 77-78            | 138                         | 153                           | 146                 | 180                               |
| 18-19            | 4 714                       | 4 734                         |                     | 564                               | 78-79            | 183                         | 188                           | 187                 | 201                               |
| 19-20            | 4 967                       | 4 804                         |                     | 562                               | 79-80            | 154                         | 152                           | 154                 | 150                               |
| 20-21            | 5 794                       | 5 457                         |                     | 637                               | 80-81            | 377                         | 314                           | 321                 | 363                               |
| 21-22            | 4 991                       | 5 025                         | 27 658              | 621                               | 81-82            | 83                          | 89                            | 86                  | 107                               |
| 22-23            | 5 806                       | 5 909                         |                     | 681                               | 82-83            | 120                         | 112                           | 116                 | 146                               |
| 23-24            | 5 988                       | 6 297                         |                     | 730                               | 83-84            | 87                          | 85                            | 86                  | 132                               |
| 24-25            | 6 115                       | 6 650                         |                     | 744                               | 84-85            | 84                          | 76                            | 80                  | 139                               |
| 25-26            | 5 992                       | 7 085                         |                     | 740                               | 85-86            | 112                         | 102                           | 108                 | 187                               |
| 26-27            | 4 824                       | 6 203                         | 29 766              | 706                               | 86-87            | 51                          | 66                            | 59                  | 119                               |
| 27-28            | 4 572                       | 5 555                         |                     | 635                               | 87-88            | 59                          | 47                            | 52                  | 97                                |
| 28-29            | 4 891                       | 6 798                         |                     | 704                               | 88-89            | 48                          | 40                            | 44                  | 88                                |
| 29-30            | 4 000                       | 5 515                         |                     | 554                               | 89-90            | 41                          | 63                            | 53                  | 82                                |
| 30-31            | 5 422                       | 7 496                         |                     | 764                               | 90-91            | 81                          | 79                            | 81                  | 147                               |
| 31-32            | 2 629                       | 3 537                         | 22 324              | 462                               | 91-92            | 17                          | 22                            | 20                  | 37                                |
| 32-33            | 3 301                       | 4 925                         |                     | 569                               | 92-93            | 18                          | 19                            | 19                  | 50                                |
| 33-34            | 2 788                       | 4 068                         |                     | 484                               | 93-94            | 17                          | 16                            | 16                  | 42                                |
| 34-35            | 2 989                       | 4 292                         |                     | 539                               | 94-95            | 19                          | 12                            | 15                  | 50                                |
| 35-36            | 4 263                       | 5 802                         |                     | 667                               | 95-96            | 24                          | 30                            | 28                  | 59                                |
| 36-37            | 2 563                       | 3 964                         | 19 594              | 496                               | 96-97            | 5                           | 14                            | 10                  | 32                                |
| 37-38            | 2 588                       | 3 489                         |                     | 458                               | 97-98            | 8                           | 10                            | 9                   | 25                                |
| 38-39            | 3 309                       | 5 059                         |                     | 636                               | 98-99            | 16                          | 11                            | 13                  | 37                                |
| 39-40            | 3 239                       | 4 040                         |                     | 511                               | 99-100           | 7                           | 8                             | 8                   | 20                                |
| 40-41            | 4 608                       | 5 900                         |                     | 822                               | 100-101          |                             | 18                            | 19                  | 52                                |
| 41-42            | 1 674                       | 2 037                         | 15 848              | 400                               | 101-102          |                             | 3                             | 3                   | 12                                |
| 42-43            | 2 380                       | 3 130                         |                     | 530                               | 102-103          |                             | 6                             | 6                   | 13                                |
| 43-44            | 1 798                       | 2 373                         |                     | 469                               | 103-104          |                             | 0                             | 0                   | 17                                |
| 44-45            | 1 847                       | 2 117                         |                     | 419                               | 104-105          |                             | 2                             | 2                   | 14                                |
| 45-46            | 3 083                       | 3 735                         |                     | 692                               | 105-106          |                             | 3                             | 3                   | 8                                 |
| 46-47            | 1 574                       | 1 841                         | 11 226              | 441                               | 106-107          |                             | 1                             | 1                   | 10                                |
| 47-48            | 1 510                       | 1 845                         |                     | 438                               | 107-108          |                             | 2                             | 2                   | 3                                 |
| 48-49            | 1 946                       | 2 635                         |                     | 499                               | 108-109          |                             | 0                             | 0                   | 5                                 |
| 49-50            | 1 796                       | 2 335                         |                     | 457                               | 109-110          |                             | 4                             | 4                   | 3                                 |
| 50-51            | 3 357                       | 3 920                         |                     | 825                               | 110-111          |                             | 4                             | 4                   | 8                                 |
| 51-52            | 1 026                       | 1 207                         | 9 818               | 356                               | 111-112          |                             | 0                             | 0                   | 0                                 |
| 52-53            | 1 500                       | 1 855                         |                     | 513                               | 112-113          |                             | 3                             | 3                   | 6                                 |
| 53-54            | 1 101                       | 1 274                         |                     | 419                               | 113-114          |                             | 0                             | 0                   | 1                                 |
| 54-55            | 1 164                       | 1 493                         |                     | 424                               | 114-115          |                             | 0                             | 0                   | 1                                 |
| 55-56            | 1 534                       | 1 842                         |                     | 555                               | 115-116          |                             | 1                             | 1                   | 1                                 |
| 56-57            | 950                         | 1 274                         | 6 102               | 436                               | 116-117          |                             | 1                             | 1                   | 0                                 |
| 57-58            | 766                         | 972                           |                     | 307                               | 117-118          |                             | 1                             | 1                   | 0                                 |
| 58-59            | 835                         | 1 146                         |                     | 447                               | 118-119          |                             | 1                             | 1                   | 3                                 |
|                  |                             |                               |                     |                                   | 119-120          |                             |                               |                     | 0                                 |
|                  |                             |                               |                     |                                   | 120-121          |                             |                               |                     | 3                                 |
|                  |                             |                               |                     |                                   | Unknown ages     | 971                         | 773                           |                     |                                   |

INFANT MORTALITY BY MONTHS DURING FIRST YEAR OF LIFE IN CALENDAR YEARS 1901 AND 1905 TO 1910.<sup>1</sup>

| Months ..... | 0-1   | 1-2 | 2-3 | 3-4 | 4-5 | 5-6 | 6-7 | 7-8 | 8-9 | 9-10 | 10-11 | 11-12 |
|--------------|-------|-----|-----|-----|-----|-----|-----|-----|-----|------|-------|-------|
| Deaths ..... | 2 355 | 662 | 607 | 669 | 539 | 521 | 514 | 411 | 355 | 334  | 309   | 277   |

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

| CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |     |     |     |     | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |     |     |     |     |
|----------------|----------------------------|-----|-----|-----|-----|----------------|----------------------------|-----|-----|-----|-----|
|                | 0-1                        | 1-2 | 2-3 | 3-4 | 4-5 |                | 0-1                        | 1-2 | 2-3 | 3-4 | 4-5 |
| 1901           | 1 091                      |     |     |     |     | 1908           | 1 079                      | 269 | 120 | 64  | 34  |
| 1902           | 1 066                      | 274 |     |     |     | 1909           | 953                        | 250 | 116 | 63  | 42  |
| 1903           | 1 087                      | 280 | 141 |     |     | 1910           | 1 089                      | 283 | 99  | 63  | 49  |
| 1904           | 1 171                      | 303 | 124 | 69  |     | 1911           | 931                        | 221 | 82  | 59  | 42  |
| 1905           | 1 122                      | 271 | 139 | 76  | 52  | 1912           |                            | 240 | 97  | 58  | 38  |
| 1906           | 1 107                      | 279 | 123 | 72  | 44  | 1913           |                            |     | 96  | 60  | 34  |
| 1907           | 1 113                      | 249 | 102 | 68  | 50  |                |                            |     |     |     |     |

<sup>1</sup> Infant mortality by months during the first year of life is not available in calendar years 1902 to 1904.

TABLE 177

POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

## LIFE TABLE FOR NEGRO MALES IN THE DISTRICT OF COLUMBIA: 1901 TO 1910.

Unknown ages undistributed in enumerated population, but distributed in mean population and in deaths.

| AGE INTERVAL | POPULATION               |                            |                  | REPORTED DEATHS. |           | AGE INTERVAL | POPULATION               |                            |                  | REPORTED DEATHS.     |           |
|--------------|--------------------------|----------------------------|------------------|------------------|-----------|--------------|--------------------------|----------------------------|------------------|----------------------|-----------|
|              | Enumerated June 1, 1900. | Enumerated April 15, 1910. | Mean, 1901-1910. | 1901-1910        | 1905-1910 |              | Enumerated June 1, 1900. | Enumerated April 15, 1910. | Mean, 1901-1910. | 1901-1910            | 1905-1910 |
| 1            | 2                        | 3                          | 4                | 5                | 6         | 7            | 8                        | 9                          | 10               | 11                   | 12        |
| All ages.    | 38 348                   | 42 615                     | 40 725           | 13 484           | 8 272     | Years.       |                          |                            |                  |                      |           |
| Years.       |                          |                            |                  |                  |           | 59-60        | 170                      | 174                        |                  |                      | 70        |
| 0-1          | 772                      | 732                        |                  | 3 338            | 1 929     | 60-61        | 441                      | 419                        |                  | Ages 60-64, 653      | 168       |
| 1-2          | 654                      | 638                        |                  | 631              | 368       | 61-62        | 64                       | 109                        | 944              |                      | 53        |
| 2-3          | 740                      | 730                        | 2 874            | 261              | 149       | 62-63        | 114                      | 145                        |                  |                      | 70        |
| 3-4          | 711                      | 758                        |                  | 144              | 96        | 63-64        | 108                      | 129                        |                  |                      | 66        |
| 4-5          | 729                      | 723                        |                  | 99               | 49        | 64-65        | 84                       | 100                        | 94               |                      | 49        |
| 5-6          | 730                      | 735                        |                  |                  | 38        | 65-66        | 259                      | 268                        | 265              | Ages 65-69, 514      | 157       |
| 6-7          | 751                      | 723                        | 3 610            | Ages 65-69, 514  | 38        | 66-67        | 71                       | 77                         | 74               |                      | 58        |
| 7-8          | 694                      | 731                        |                  | 265              | 30        | 67-68        | 63                       | 81                         | 73               |                      | 47        |
| 8-9          | 727                      | 658                        |                  |                  | 29        | 68-69        | 55                       | 92                         | 76               |                      | 54        |
| 9-10         | 692                      | 644                        |                  |                  | 22        | 69-70        | 60                       | 94                         | 79               |                      | 40        |
| 10-11        | 661                      | 713                        |                  |                  | 17        | 70-71        | 161                      | 169                        | 166              | Ages 70-74, 378      | 127       |
| 11-12        | 628                      | 629                        | 3 389            | Ages 10-14, 210  | 28        | 71-72        | 33                       | 26                         | 29               |                      | 18        |
| 12-13        | 746                      | 711                        |                  |                  | 22        | 72-73        | 40                       | 65                         | 57               |                      | 33        |
| 13-14        | 699                      | 646                        |                  |                  | 24        | 73-74        | 36                       | 41                         | 39               |                      | 23        |
| 14-15        | 685                      | 685                        |                  |                  | 28        | 74-75        | 24                       | 39                         | 32               |                      | 24        |
| 15-16        | 706                      | 658                        |                  |                  | 30        | 75-76        | 73                       | 76                         | 75               | Ages 75-79, 246      | 78        |
| 16-17        | 688                      | 711                        | 3 615            | Ages 15-19, 413  | 43        | 76-77        | 24                       | 29                         | 27               |                      | 36        |
| 17-18        | 712                      | 735                        |                  |                  | 45        | 77-78        | 12                       | 18                         | 15               |                      | 22        |
| 18-19        | 844                      | 791                        |                  |                  | 67        | 78-79        | 18                       | 30                         | 25               |                      | 20        |
| 19-20        | 863                      | 821                        |                  |                  | 72        | 79-80        | 23                       | 17                         | 20               |                      | 13        |
| 20-21        | 811                      | 818                        |                  |                  | 72        | 80-81        | 42                       | 38                         | 40               | Ages 80-84, 156      | 43        |
| 21-22        | 868                      | 913                        | 4 529            | Ages 20-24, 779  | 74        | 81-82        | 12                       | 13                         | 13               |                      | 8         |
| 22-23        | 918                      | 1 006                      |                  |                  | 96        | 82-83        | 10                       | 16                         | 12               |                      | 13        |
| 23-24        | 978                      | 997                        |                  |                  | 115       | 83-84        | 7                        | 15                         | 11               |                      | 14        |
| 24-25        | 970                      | 1 032                      |                  |                  | 115       | 84-85        | 12                       | 8                          | 10               |                      | 11        |
| 25-26        | 964                      | 1 179                      |                  |                  | 114       | 85-86        | 11                       | 11                         | 11               | Ages 85-89, 76       | 16        |
| 26-27        | 738                      | 887                        | 4 790            | Ages 25-29, 836  | 90        | 86-87        | 10                       | 10                         | 10               |                      | 10        |
| 27-28        | 743                      | 947                        |                  |                  | 94        | 87-88        | 8                        | 8                          | 8                |                      | 11        |
| 28-29        | 848                      | 1 144                      |                  |                  | 134       | 88-89        | 6                        | 6                          | 5                |                      | 4         |
| 29-30        | 653                      | 888                        |                  |                  | 88        | 89-90        | 6                        | 2                          | 4                |                      | 4         |
| 30-31        | 1 115                    | 1 212                      |                  |                  | 124       | 90-91        | 5                        | 10                         | 8                | Ages 90-94, 34       | 9         |
| 31-32        | 431                      | 594                        | 3 753            | Ages 30-34, 744  | 68        | 91-92        | 0                        | 3                          | 1                |                      | 3         |
| 32-33        | 545                      | 898                        |                  |                  | 104       | 92-93        | 3                        | 3                          | 3                |                      | 1         |
| 33-34        | 440                      | 676                        |                  |                  | 127       | 93-94        | 2                        | 2                          | 2                |                      | 4         |
| 34-35        | 509                      | 723                        |                  |                  | 89        | 94-95        | 1                        | 0                          | 0                |                      | 3         |
| 35-36        | 925                      | 1 141                      | 3 559            | Ages 35-39, 783  | 165       | 95-96        | 1                        | 3                          | 2                |                      | 5         |
| 36-37        | 454                      | 640                        |                  |                  | 92        | 96-97        | 2                        | 1                          | 2                |                      | 4         |
| 37-38        | 445                      | 638                        |                  |                  | 78        | 97-98        | 1                        | 0                          | 0                |                      | 6         |
| 38-39        | 578                      | 912                        |                  |                  | 109       | 98-99        | 2                        | 1                          | 2                |                      | 3         |
| 39-40        | 537                      | 741                        |                  |                  | 87        | 99-100       | 0                        | 0                          | 0                |                      | 1         |
| 40-41        | 1 089                    | 1 164                      |                  |                  | 155       | 100-101      |                          | 1                          | 1                |                      | 5         |
| 41-42        | 301                      | 376                        | 3 049            | Ages 40-44, 739  | 68        | 101-102      |                          | 1                          | 1                |                      | 1         |
| 42-43        | 457                      | 622                        |                  |                  | 104       | 102-103      |                          | 1                          | 1                |                      | 0         |
| 43-44        | 325                      | 398                        |                  |                  | 78        | 103-104      |                          | 1                          | 1                |                      | 2         |
| 44-45        | 280                      | 404                        |                  |                  | 63        | 104-105      |                          | 0                          | 0                | Ages 95 and over, 51 | 0         |
| 45-46        | 749                      | 768                        |                  |                  | 138       | 105-106      |                          | 1                          | 1                |                      | 3         |
| 46-47        | 267                      | 283                        | 2 121            | Ages 45-49, 684  | 63        | 106-107      |                          | 1                          | 1                |                      | 1         |
| 47-48        | 271                      | 302                        |                  |                  | 56        | 107-108      |                          |                            |                  |                      |           |
| 48-49        | 413                      | 465                        |                  |                  | 96        | 108-109      |                          |                            |                  |                      |           |
| 49-50        | 356                      | 437                        |                  |                  | 76        | 109-110      |                          |                            |                  |                      |           |
| 50-51        | 813                      | 726                        |                  |                  | 194       | 110-111      |                          |                            |                  |                      |           |
| 51-52        | 205                      | 231                        | 1 978            | Ages 50-54, 770  | 57        | 111-112      |                          |                            |                  |                      |           |
| 52-53        | 329                      | 358                        |                  |                  | 92        | 112-113      |                          |                            |                  |                      |           |
| 53-54        | 231                      | 259                        |                  |                  | 72        | 113-114      |                          |                            |                  |                      |           |
| 54-55        | 253                      | 268                        |                  |                  | 77        | 114-115      |                          |                            |                  |                      |           |
| 55-56        | 351                      | 374                        |                  |                  | 108       | 115-116      |                          |                            |                  |                      |           |
| 56-57        | 225                      | 236                        | 1 211            | Ages 55-59, 650  | 68        | 116-117      |                          |                            |                  |                      |           |
| 57-58        | 161                      | 174                        |                  |                  | 76        | 117-118      |                          |                            |                  |                      |           |
| 58-59        | 199                      | 171                        |                  |                  | 65        | 118-119      |                          |                            |                  |                      |           |
|              |                          |                            |                  |                  |           | Unknown ages | 34                       | 183                        |                  |                      |           |

INFANT MORTALITY BY MONTHS DURING FIRST YEAR OF LIFE IN CALENDAR YEARS 1905 TO 1910.<sup>1</sup>

| Months..... | 0-1 | 1-2 | 2-3 | 3-4 | 4-5 | 5-6 | 6-7 | 7-8 | 8-9 | 9-10 | 10-11 | 11-12 |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-------|-------|
| Deaths..... | 629 | 201 | 170 | 147 | 144 | 122 | 131 | 91  | 98  | 67   | 55    | 71    |

## ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

| CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |     |     |     |     | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |     |     |     |     |
|----------------|----------------------------|-----|-----|-----|-----|----------------|----------------------------|-----|-----|-----|-----|
|                | 0-1                        | 1-2 | 2-3 | 3-4 | 4-5 |                | 0-1                        | 1-2 | 2-3 | 3-4 | 4-5 |
| 1901           | 368                        |     |     |     |     | 1908           | 300                        | 50  | 14  | 16  | 10  |
| 1902           | 399                        | 69  |     |     |     | 1909           | 280                        | 60  | 24  | 17  | 6   |
| 1903           | 314                        | 83  | 33  |     |     | 1910           | 303                        | 45  | 28  | 4   | 3   |
| 1904           | 328                        | 60  | 21  | 16  |     | 1911           | 246                        | 57  | 21  | 3   | 5   |
| 1905           | 352                        | 79  | 36  | 24  | 12  | 1912           |                            | 52  | 16  | 9   | 5   |
| 1906           | 384                        | 67  | 31  | 11  | 11  | 1913           |                            |     | 20  | 18  | 6   |
| 1907           | 310                        | 67  | 16  | 14  | 7   |                |                            |     |     |     |     |

<sup>1</sup> Infant mortality by months under 1 year of age is not available before 1905.

TABLE 178 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE  
LIFE TABLE FOR NEGRO FEMALES IN THE DISTRICT OF COLUMBIA: 1901 TO 1910.

Unknown ages undistributed in enumerated population, but distributed in mean population and in deaths.

| AGE<br>INTERVAL. | POPULATION.                 |                               |                     | REPORTED DEATHS. |           | AGE<br>INTERVAL. | POPULATION.                 |                               |                     | REPORTED DEATHS. |           |
|------------------|-----------------------------|-------------------------------|---------------------|------------------|-----------|------------------|-----------------------------|-------------------------------|---------------------|------------------|-----------|
|                  | Enumerated<br>June 1, 1900. | Enumerated<br>April 15, 1910. | Mean,<br>1901-1910. | 1901-1910        | 1905-1910 |                  | Enumerated<br>June 1, 1900. | Enumerated<br>April 15, 1910. | Mean,<br>1901-1910. | 1901-1910        | 1905-1910 |
| 1                | 2                           | 3                             | 4                   | 5                | 6         | 7                | 8                           | 9                             | 10                  | 11               | 12        |
| All ages.        | 48 354                      | 51 831                        | 50 301              | 13 114           | 7 872     | Years.           |                             |                               |                     |                  |           |
| Years.           |                             |                               |                     |                  |           | 59-60            | 154                         | 194                           |                     | Ages             | 46        |
| 0-1              | 742                         | 726                           |                     | 2 867            | 1 688     | 60-61            | 512                         | 629                           |                     | 60-64,           | 171       |
| 1-2              | 700                         | 683                           | 2 950               | 557              | 310       | 61-62            | 90                          | 91                            | 1 120               | 613              | 45        |
| 2-3              | 775                         | 747                           |                     | 276              | 157       | 62-63            | 137                         | 151                           |                     |                  | 47        |
| 3-4              | 732                         | 776                           |                     | 147              | 86        | 63-64            | 112                         | 138                           |                     |                  | 58        |
| 4-5              | 723                         | 777                           |                     | 108              | 57        | 64-65            | 83                          | 98                            |                     | Ages             | 45        |
| 5-6              | 734                         | 758                           | 3 844               | 45               | 33        | 65-66            | 310                         | 338                           | 660                 | 65-69,           | 141       |
| 6-7              | 802                         | 761                           |                     | 33               | 32        | 66-67            | 54                          | 65                            |                     | 484              | 41        |
| 7-8              | 833                         | 756                           |                     | 310              | 31        | 67-68            | 59                          | 89                            |                     |                  | 45        |
| 8-9              | 758                         | 763                           |                     |                  |           | 68-69            | 91                          | 115                           |                     |                  | 44        |
| 9-10             | 751                         | 660                           |                     |                  | 33        | 69-70            | 82                          | 99                            |                     | Ages             | 41        |
| 10-11            | 793                         | 769                           |                     |                  | 26        | 70-71            | 269                         | 245                           |                     | 70-74,           | 121       |
| 11-12            | 756                         | 675                           | 3 777               | Ages             | 27        | 71-72            | 31                          | 46                            | 498                 | 385              | 30        |
| 12-13            | 739                         | 863                           |                     | 10-14,           | 29        | 72-73            | 53                          | 72                            |                     |                  | 37        |
| 13-14            | 792                         | 743                           |                     | 274              | 36        | 73-74            | 36                          | 54                            |                     |                  | 27        |
| 14-15            | 802                         | 777                           |                     |                  | 44        | 74-75            | 52                          | 55                            |                     | Ages             | 19        |
| 15-16            | 856                         | 819                           |                     | Ages             | 02        | 75-76            | 107                         | 106                           |                     | 75-79,           | 67        |
| 16-17            | 957                         | 915                           | 4 637               | 15-19,           | 60        | 76-77            | 46                          | 42                            | 258                 | 247              | 26        |
| 17-18            | 947                         | 877                           |                     | 658              | 82        | 77-78            | 24                          | 18                            |                     |                  | 20        |
| 18-19            | 1 148                       | 1 162                         |                     |                  |           | 78-79            | 34                          | 33                            |                     |                  | 20        |
| 19-20            | 1 249                       | 1 130                         |                     |                  | 99        | 79-80            | 28                          | 19                            | 23                  |                  | 19        |
| 20-21            | 1 459                       | 1 245                         |                     | Ages             | 93        | 80-81            | 93                          | 84                            | 88                  | Ages             | 58        |
| 21-22            | 1 190                       | 1 087                         | 6 536               | 20-24,           | 94        | 81-82            | 12                          | 13                            | 13                  | 80-84,           | 13        |
| 22-23            | 1 442                       | 1 326                         |                     | 895              | 83        | 82-83            | 22                          | 23                            | 23                  | 194              | 12        |
| 23-24            | 1 458                       | 1 478                         |                     |                  | 116       | 83-84            | 20                          | 15                            | 17                  |                  | 14        |
| 24-25            | 1 490                       | 1 431                         |                     |                  | 122       | 84-85            | 21                          | 14                            | 17                  |                  | 13        |
| 25-26            | 1 503                       | 1 591                         |                     | Ages             | 119       | 85-86            | 35                          | 25                            | 29                  | Ages             | 21        |
| 26-27            | 1 124                       | 1 273                         | 6 642               | 25-29,           | 111       | 86-87            | 10                          | 11                            | 11                  | 85-89,           | 15        |
| 27-28            | 1 045                       | 1 124                         |                     | 855              | 98        | 87-88            | 9                           | 12                            | 11                  | 123              | 8         |
| 28-29            | 1 103                       | 1 406                         |                     |                  | 114       | 88-89            | 20                          | 9                             | 14                  |                  | 8         |
| 29-30            | 871                         | 1 133                         |                     |                  | 100       | 89-90            | 7                           | 12                            | 10                  |                  | 12        |
| 30-31            | 1 354                       | 1 589                         |                     |                  | 106       | 90-91            | 32                          | 21                            | 26                  | Ages             | 15        |
| 31-32            | 546                         | 670                           | 4 735               | 30-34,           | 54        | 91-92            | 2                           | 4                             | 3                   | 90-94,           | 2         |
| 32-33            | 711                         | 1 009                         |                     | 620              | 85        | 92-93            | 6                           | 6                             | 6                   | 77               | 4         |
| 33-34            | 557                         | 826                           |                     |                  | 74        | 93-94            | 1                           | 4                             | 2                   |                  | 9         |
| 34-35            | 636                         | 856                           |                     |                  | 89        | 94-95            | 6                           | 2                             | 14                  |                  | 6         |
| 35-36            | 1 187                       | 1 348                         |                     | Ages             | 118       | 95-96            | 12                          | 8                             | 10                  |                  | 7         |
| 36-37            | 559                         | 790                           | 4 344               | 35-39,           | 68        | 96-97            | 0                           | 3                             | 1                   |                  | 6         |
| 37-38            | 555                         | 688                           |                     | 678              | 99        | 97-98            | 2                           | 0                             | 1                   |                  | 4         |
| 38-39            | 794                         | 1 113                         |                     |                  | 99        | 98-99            | 7                           | 3                             | 5                   |                  | 5         |
| 39-40            | 735                         | 917                           |                     |                  | 78        | 99-100           | 2                           | 1                             | 1                   |                  | 6         |
| 40-41            | 1 311                       | 1 424                         |                     |                  | 157       | 100-101          |                             | 4                             | 4                   |                  | 7         |
| 41-42            | 358                         | 395                           | 3 624               | 40-44,           | 60        | 101-102          |                             | 0                             | 0                   |                  | 1         |
| 42-43            | 549                         | 637                           |                     | 682              | 75        | 102-103          |                             | 2                             | 2                   |                  | 1         |
| 43-44            | 349                         | 480                           |                     |                  | 80        | 103-104          |                             | 0                             | 0                   |                  | 2         |
| 44-45            | 441                         | 427                           |                     |                  | 57        | 104-105          |                             | 0                             | 0                   |                  | 1         |
| 45-46            | 949                         | 935                           |                     | Ages             | 127       | 105-106          |                             | 3                             | 3                   |                  | 2         |
| 46-47            | 334                         | 352                           | 2 636               | 45-49,           | 63        | 106-107          |                             | 0                             | 0                   |                  | 4         |
| 47-48            | 319                         | 354                           |                     | 691              | 68        | 107-108          |                             | 0                             | 0                   |                  | 0         |
| 48-49            | 490                         | 632                           |                     |                  | 68        | 108-109          |                             | 0                             | 0                   |                  | 0         |
| 49-50            | 420                         | 499                           |                     |                  | 72        | 109-110          |                             | 2                             | 2                   |                  | 0         |
| 50-51            | 1 017                       | 1 018                         |                     | Ages             | 176       | 110-111          |                             | 0                             | 0                   |                  | 2         |
| 51-52            | 218                         | 230                           | 2 340               | 50-54,           | 66        | 111-112          |                             | 0                             | 0                   |                  | 0         |
| 52-53            | 346                         | 395                           |                     | 735              | 90        | 112-113          |                             | 0                             | 0                   |                  | 0         |
| 53-54            | 245                         | 256                           |                     |                  | 71        | 113-114          |                             | 0                             | 0                   |                  | 0         |
| 54-55            | 237                         | 329                           |                     |                  | 56        | 114-115          |                             | 0                             | 0                   |                  | 0         |
| 55-56            | 414                         | 439                           |                     | Ages             | 114       | 115-116          |                             | 0                             | 0                   |                  | 0         |
| 56-57            | 200                         | 262                           | 1 371               | 55-59,           | 64        | 116-117          |                             | 1                             | 1                   |                  | 0         |
| 57-58            | 165                         | 197                           |                     | 635              | 50        | 117-118          |                             |                               |                     |                  | 2         |
| 58-59            | 193                         | 262                           |                     |                  | 76        | 118-119          |                             |                               |                     |                  |           |
|                  |                             |                               |                     |                  |           | 119-120          |                             |                               |                     |                  | 0         |
|                  |                             |                               |                     |                  |           | 120-121          |                             |                               |                     |                  | 2         |
|                  |                             |                               |                     |                  |           | Unknown ages     | 46                          | 290                           |                     |                  |           |

INFANT MORTALITY BY MONTHS DURING FIRST YEAR OF LIFE IN CALENDAR YEARS 1905 TO 1910.<sup>1</sup>

| Months..... | 0-1 | 1-2 | 2-3 | 3-4 | 4-5 | 5-6 | 6-7 | 7-8 | 8-9 | 9-10 | 10-11 | 11-12 |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-------|-------|
| Deaths..... | 541 | 133 | 146 | 143 | 129 | 140 | 118 | 85  | 70  | 74   | 60    | 49    |

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

| CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |     |     |     |     | CALENDAR YEAR. | AGE INTERVALS OF ONE YEAR. |     |     |     |     |
|----------------|----------------------------|-----|-----|-----|-----|----------------|----------------------------|-----|-----|-----|-----|
|                | 0-1                        | 1-2 | 2-3 | 3-4 | 4-5 |                | 0-1                        | 1-2 | 2-3 | 3-4 | 4-5 |
| 1901           | 328                        |     |     |     |     | 1908           | 268                        | 50  | 23  | 14  | 9   |
| 1902           | 310                        | 70  |     |     |     | 1909           | 258                        | 50  | 32  | 12  | 9   |
| 1903           | 265                        | 57  | 33  |     |     | 1910           | 278                        | 43  | 23  | 15  | 7   |
| 1904           | 279                        | 59  | 28  | 20  |     | 1911           | 219                        | 67  | 20  | 11  | 9   |
| 1905           | 309                        | 66  | 26  | 15  | 6   | 1912           |                            | 48  | 19  | 13  | 9   |
| 1906           | 278                        | 48  | 25  | 14  | 7   | 1913           |                            |     | 17  | 14  | 5   |
| 1907           | 299                        | 53  | 23  | 16  | 19  |                |                            |     |     |     |     |

<sup>1</sup> Infant mortality by months under 1 year of age is not available before 1905.



## UNITED STATES LIFE TABLES.

TABLE 179 POPULATION AND MORTALITY STATISTICS UPON WHICH ARE BASED THE  
LIFE TABLES FOR INDIANA: 1901; AND MASSACHUSETTS: 1890.<sup>1</sup>

Unknown ages distributed.

| AGE<br>INTERVAL.                                                          | INDIANA: 1901.                           |                  |        |        |           | MASSACHUSETTS: 1890. <sup>1</sup>              |                                           |                                          |                                  |     |
|---------------------------------------------------------------------------|------------------------------------------|------------------|--------|--------|-----------|------------------------------------------------|-------------------------------------------|------------------------------------------|----------------------------------|-----|
|                                                                           | Estimated<br>population<br>July 1, 1900. | REPORTED DEATHS. |        |        |           | Enumerated<br>population<br>June 1, 1890.      | Enumerated<br>population<br>June 1, 1900. | Estimated<br>population<br>Dec. 1, 1889. | Reported<br>deaths. <sup>1</sup> |     |
|                                                                           |                                          | 1900             | 1901   | 1902   | 1900-1902 |                                                |                                           |                                          |                                  |     |
| MALES.                                                                    |                                          |                  |        |        |           |                                                |                                           |                                          |                                  |     |
| 1                                                                         | 2                                        | 3                | 4      | 5      | 6         | 7                                              | 8                                         | 9                                        | 10                               |     |
| All ages.                                                                 | 1 286 199                                | 18 428           | 18 022 | 17 122 | 53 572    | 1 087 709                                      | 1 367 474                                 | 1 073 721                                | 21 545                           |     |
| Years.                                                                    |                                          |                  |        |        |           |                                                |                                           |                                          |                                  |     |
| 0-1                                                                       | 29 827                                   | 3 717            | 3 599  | 3 605  | 10 921    | 21 772                                         | 30 409                                    | 21 340                                   | 4 782                            |     |
| 1-2                                                                       | 27 015                                   | 962              | 845    | 764    | 2 571     | 14 338                                         | 27 350                                    | 13 687                                   | 1 122                            |     |
| 2-3                                                                       | 27 242                                   | 433              | 339    | 300    | 1 072     | 23 645                                         | 28 323                                    | 23 411                                   | 553                              |     |
| 3-4                                                                       | 27 841                                   | 261              | 226    | 176    | 663       | 22 251                                         | 28 700                                    | 21 929                                   | 330                              |     |
| 4-5                                                                       | 28 072                                   | 188              | 143    | 139    | 470       | 20 898                                         | 27 661                                    | 20 560                                   | 288                              |     |
| 5-9                                                                       | 139 583                                  | 582              | 474    | 426    | 1 482     | 98 449                                         | 128 725                                   | 96 935                                   | 742                              |     |
| 10-14                                                                     | 134 089                                  | 385              | 356    | 364    | 1 105     | 97 034                                         | 114 661                                   | 96 153                                   | 396                              |     |
| 15-19                                                                     | 129 601                                  | 605              | 560    | 543    | 1 708     | 104 388                                        | 115 802                                   | 103 817                                  | 638                              |     |
| 20-24                                                                     | 116 065                                  | 779              | 766    | 709    | 2 251     | 115 765                                        | 129 974                                   | 115 055                                  | 989                              |     |
| 25-29                                                                     | 106 662                                  | 666              | 676    | 664    | 2 006     | 106 671                                        | 137 082                                   | 105 150                                  | 1 013                            |     |
| 30-34                                                                     | 96 531                                   | 638              | 629    | 595    | 1 862     | 91 548                                         | 122 369                                   | 90 007                                   | 924                              |     |
| 35-39                                                                     | 86 454                                   | 634              | 602    | 569    | 1 805     | 77 202                                         | 108 979                                   | 75 613                                   | 853                              |     |
| 40-44                                                                     | 77 198                                   | 621              | 674    | 624    | 1 919     | 66 039                                         | 89 291                                    | 64 876                                   | 830                              |     |
| 45-49                                                                     | 63 303                                   | 672              | 677    | 625    | 1 974     | 57 315                                         | 71 574                                    | 56 602                                   | 862                              |     |
| 50-54                                                                     | 56 862                                   | 729              | 754    | 687    | 2 170     | 48 690                                         | 60 964                                    | 48 076                                   | 937                              |     |
| 55-59                                                                     | 44 559                                   | 829              | 908    | 767    | 2 504     | 35 387                                         | 45 343                                    | 34 889                                   | 922                              |     |
| 60-64                                                                     | 34 320                                   | 952              | 962    | 930    | 2 844     | 31 222                                         | 36 988                                    | 30 931                                   | 985                              |     |
| 65-69                                                                     | 26 384                                   | 1 188            | 1 116  | 1 144  | 3 448     | 22 506                                         | 26 353                                    | 22 314                                   | 1 081                            |     |
| 70-74                                                                     | 17 698                                   | 1 207            | 1 218  | 1 160  | 3 585     | 16 156                                         | 17 941                                    | 16 067                                   | 1 062                            |     |
| 75-79                                                                     | 10 271                                   | 1 084            | 1 100  | 1 079  | 3 263     | 9 475                                          | 11 164                                    | 9 391                                    | 993                              |     |
| 80-84                                                                     | 4 622                                    | 784              | 849    | 759    | 2 392     | 4 849                                          | 5 492                                     | 4 817                                    | 691                              |     |
| 85-89                                                                     | 1 568                                    | 357              | 402    | 316    | 1 105     | 1 603                                          | 1 842                                     | 1 591                                    | 377                              |     |
| 90-94                                                                     | 321                                      | 118              | 109    | 114    | 341       | 424                                            | 420                                       | 421                                      | 109                              |     |
| 95-99                                                                     | 50                                       |                  |        |        |           | 68                                             | 52                                        | 69                                       |                                  |     |
| 100 and over                                                              | 25                                       | 37               | 38     | 33     | 108       | 14                                             | 12                                        | 14                                       | 33                               |     |
| FEMALES.                                                                  |                                          |                  |        |        |           |                                                |                                           |                                          |                                  |     |
| All ages.                                                                 | 1 231 819                                | 17 284           | 17 108 | 15 825 | 50 217    | 1 151 234                                      | 1 437 872                                 | 1 136 902                                | 21 557                           |     |
| Years.                                                                    |                                          |                  |        |        |           |                                                |                                           |                                          |                                  |     |
| 0-1                                                                       | 28 324                                   | 2 950            | 2 925  | 2 865  | 8 740     | 21 398                                         | 30 291                                    | 20 953                                   | 4 039                            |     |
| 1-2                                                                       | 26 298                                   | 867              | 751    | 651    | 2 269     | 14 207                                         | 26 780                                    | 13 578                                   | 1 053                            |     |
| 2-3                                                                       | 26 538                                   | 432              | 349    | 328    | 1 109     | 23 218                                         | 28 128                                    | 22 973                                   | 562                              |     |
| 3-4                                                                       | 27 173                                   | 239              | 199    | 152    | 590       | 22 246                                         | 28 174                                    | 21 950                                   | 319                              |     |
| 4-5                                                                       | 27 215                                   | 190              | 139    | 135    | 464       | 20 382                                         | 27 395                                    | 20 031                                   | 281                              |     |
| 5-9                                                                       | 134 612                                  | 570              | 477    | 405    | 1 452     | 97 703                                         | 128 218                                   | 96 177                                   | 742                              |     |
| 10-14                                                                     | 131 456                                  | 419              | 347    | 330    | 1 096     | 95 758                                         | 115 457                                   | 94 773                                   | 411                              |     |
| 15-19                                                                     | 128 508                                  | 796              | 719    | 644    | 2 159     | 110 850                                        | 122 874                                   | 110 249                                  | 723                              |     |
| 20-24                                                                     | 116 203                                  | 924              | 962    | 896    | 2 782     | 129 703                                        | 150 267                                   | 128 675                                  | 1 027                            |     |
| 25-29                                                                     | 103 416                                  | 881              | 873    | 783    | 2 537     | 114 599                                        | 146 364                                   | 113 011                                  | 1 051                            |     |
| 30-34                                                                     | 91 639                                   | 735              | 780    | 708    | 2 223     | 94 246                                         | 122 200                                   | 92 818                                   | 928                              |     |
| 35-39                                                                     | 81 349                                   | 715              | 681    | 632    | 2 028     | 79 624                                         | 109 185                                   | 78 146                                   | 880                              |     |
| 40-44                                                                     | 71 182                                   | 631              | 659    | 657    | 1 947     | 69 892                                         | 89 851                                    | 68 894                                   | 841                              |     |
| 45-49                                                                     | 58 671                                   | 611              | 621    | 560    | 1 792     | 60 672                                         | 74 039                                    | 60 004                                   | 817                              |     |
| 50-54                                                                     | 49 385                                   | 607              | 616    | 625    | 1 848     | 54 202                                         | 64 454                                    | 53 689                                   | 875                              |     |
| 55-59                                                                     | 40 833                                   | 722              | 743    | 670    | 2 135     | 40 367                                         | 50 377                                    | 39 866                                   | 901                              |     |
| 60-64                                                                     | 31 812                                   | 803              | 851    | 781    | 2 435     | 35 359                                         | 43 518                                    | 31 951                                   | 1 009                            |     |
| 65-69                                                                     | 24 856                                   | 940              | 1 008  | 887    | 2 835     | 25 415                                         | 32 197                                    | 25 076                                   | 1 051                            |     |
| 70-74                                                                     | 16 153                                   | 1 032            | 1 036  | 1 006  | 3 074     | 18 878                                         | 22 407                                    | 18 702                                   | 1 092                            |     |
| 75-79                                                                     | 9 594                                    | 912              | 1 021  | 968    | 2 931     | 11 538                                         | 14 057                                    | 11 412                                   | 1 008                            |     |
| 80-84                                                                     | 4 494                                    | 721              | 775    | 639    | 2 135     | 7 009                                          | 7 571                                     | 6 981                                    | 943                              |     |
| 85-89                                                                     | 1 588                                    | 383              | 392    | 326    | 1 101     | 2 846                                          | 3 002                                     | 2 838                                    | 609                              |     |
| 90-94                                                                     | 409                                      | 129              | 140    | 123    | 392       | 895                                            | 876                                       | 896                                      | 244                              |     |
| 95-99                                                                     | 86                                       |                  |        |        |           | 187                                            | 161                                       | 188                                      |                                  |     |
| 100 and over                                                              | 34                                       | 45               | 44     | 54     | 143       | 40                                             | 29                                        | 41                                       | 91                               |     |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                          |                  |        |        |           |                                                |                                           |                                          |                                  |     |
| CALENDAR<br>YEAR.                                                         | AGE INTERVALS OF ONE YEAR.               |                  |        |        |           | AGE INTERVALS OF ONE YEAR.                     |                                           |                                          |                                  |     |
|                                                                           | 0-1                                      | 1-2              | 2-3    | 3-4    | 4-5       | 0-1                                            | 1-2                                       | 2-3                                      | 3-4                              | 4-5 |
| MALES.                                                                    |                                          |                  |        |        |           |                                                |                                           |                                          |                                  |     |
| 1903                                                                      | 3 081                                    | 692              | 300    | 202    | 145       | No death data available between 1890 and 1900. |                                           |                                          |                                  |     |
| 1904                                                                      | .....                                    | 754              | 338    | 195    | 112       |                                                |                                           |                                          |                                  |     |
| 1905                                                                      | .....                                    | .....            | 293    | 182    | 112       |                                                |                                           |                                          |                                  |     |
| 1906                                                                      | .....                                    | .....            | .....  | 164    | 147       |                                                |                                           |                                          |                                  |     |
| FEMALES.                                                                  |                                          |                  |        |        |           |                                                |                                           |                                          |                                  |     |
| 1903                                                                      | 2 397                                    | 583              | 254    | 151    | 117       | No death data available between 1890 and 1900. |                                           |                                          |                                  |     |
| 1904                                                                      | .....                                    | 685              | 295    | 194    | 118       |                                                |                                           |                                          |                                  |     |
| 1905                                                                      | .....                                    | .....            | 274    | 172    | 118       |                                                |                                           |                                          |                                  |     |
| 1906                                                                      | .....                                    | .....            | .....  | 166    | 135       |                                                |                                           |                                          |                                  |     |

<sup>1</sup> Census year ended May 31, 1890.

TABLE 180 POPULATION AND MORTALITY STATISTICS UPON WHICH ARE BASED THE  
LIFE TABLES FOR MASSACHUSETTS: 1901; AND MICHIGAN: 1901.

Unknown ages distributed.

| AGE<br>INTERVAL.             | MASSACHUSETTS: 1901.                     |                  |        |           |                              | MICHIGAN: 1901.                                                           |                  |        |        |           |
|------------------------------|------------------------------------------|------------------|--------|-----------|------------------------------|---------------------------------------------------------------------------|------------------|--------|--------|-----------|
|                              | Estimated<br>population<br>July 1, 1900. | REPORTED DEATHS. |        |           |                              | Estimated<br>population<br>July 1, 1900.                                  | REPORTED DEATHS. |        |        |           |
|                              |                                          | 1900             | 1901   | 1902      | 1900-1902                    |                                                                           | 1900             | 1901   | 1902   | 1900-1902 |
| MALES.                       |                                          |                  |        |           |                              |                                                                           |                  |        |        |           |
| 1                            | 2                                        | 3                | 4      | 5         | 6                            | 7                                                                         | 8                | 9      | 10     | 11        |
| All ages.                    | 1 369 903                                | 25 050           | 24 873 | 24 312    | 75 235                       | 1 250 610                                                                 | 18 130           | 17 597 | 17 016 | 52 743    |
| Years.                       |                                          |                  |        |           |                              |                                                                           |                  |        |        |           |
| 0-1                          | 30 455                                   | 6 487            | 5 585  | 5 562     | 17 634                       | 27 515                                                                    | 4 068            | 3 600  | 3 370  | 11 038    |
| 1-2                          | 27 385                                   | 1 204            | 1 021  | 1 154     | 3 469                        | 25 533                                                                    | 778              | 612    | 582    | 1 972     |
| 2-3                          | 28 371                                   | 529              | 504    | 477       | 1 510                        | 25 857                                                                    | 321              | 265    | 283    | 869       |
| 3-4                          | 28 740                                   | 419              | 351    | 286       | 1 056                        | 26 813                                                                    | 188              | 155    | 189    | 532       |
| 4-5                          | 27 690                                   | 272              | 262    | 206       | 740                          | 26 560                                                                    | 160              | 130    | 143    | 433       |
| 5-9                          | 128 895                                  | 678              | 615    | 573       | 1 866                        | 134 213                                                                   | 508              | 403    | 471    | 1 382     |
| 10-14                        | 114 899                                  | 327              | 331    | 310       | 968                          | 125 217                                                                   | 354              | 375    | 312    | 1 041     |
| 15-19                        | 116 055                                  | 602              | 510    | 505       | 1 617                        | 116 784                                                                   | 548              | 535    | 491    | 1 574     |
| 20-24                        | 130 205                                  | 921              | 861    | 823       | 2 605                        | 112 076                                                                   | 678              | 643    | 615    | 1 936     |
| 25-29                        | 137 233                                  | 1 009            | 1 073  | 1 013     | 3 095                        | 101 833                                                                   | 651              | 585    | 589    | 1 825     |
| 30-34                        | 122 509                                  | 1 015            | 1 070  | 961       | 3 046                        | 92 994                                                                    | 561              | 538    | 503    | 1 602     |
| 35-39                        | 109 199                                  | 1 064            | 1 120  | 997       | 3 181                        | 87 435                                                                    | 579              | 587    | 582    | 1 748     |
| 40-44                        | 89 503                                   | 1 009            | 1 083  | 1 089     | 3 186                        | 79 418                                                                    | 621              | 616    | 659    | 1 926     |
| 45-49                        | 71 776                                   | 995              | 1 075  | 1 012     | 3 082                        | 68 175                                                                    | 621              | 641    | 672    | 1 934     |
| 50-54                        | 61 118                                   | 1 160            | 1 152  | 1 153     | 3 465                        | 56 536                                                                    | 707              | 744    | 762    | 2 213     |
| 55-59                        | 45 431                                   | 1 246            | 1 194  | 1 277     | 3 717                        | 45 488                                                                    | 845              | 868    | 813    | 2 526     |
| 60-64                        | 37 050                                   | 1 328            | 1 422  | 1 438     | 4 188                        | 35 300                                                                    | 932              | 958    | 923    | 2 813     |
| 65-69                        | 26 405                                   | 1 472            | 1 429  | 1 392     | 4 293                        | 27 255                                                                    | 1 097            | 1 237  | 1 188  | 3 522     |
| 70-74                        | 17 973                                   | 1 369            | 1 348  | 1 343     | 4 060                        | 18 344                                                                    | 1 245            | 1 249  | 1 205  | 3 699     |
| 75-79                        | 11 177                                   | 1 252            | 1 291  | 1 238     | 3 781                        | 11 480                                                                    | 1 192            | 1 219  | 1 157  | 3 568     |
| 80-84                        | 5 498                                    | 949              | 971    | 858       | 2 778                        | 5 405                                                                     | 819              | 949    | 900    | 2 668     |
| 85-89                        | 1 846                                    | 477              | 424    | 455       | 1 356                        | 1 815                                                                     | 485              | 459    | 432    | 1 376     |
| 90-94                        | 421                                      | 144              | 147    | 158       | 449                          | 386                                                                       | 133              | 135    | 137    | 405       |
| 95-99                        | 52                                       |                  |        |           |                              | 104                                                                       |                  |        |        |           |
| 100 and over                 | 12                                       | 32               | 29     | 32        | 93                           | 24                                                                        | 39               | 44     | 38     | 121       |
| FEMALES.                     |                                          |                  |        |           |                              |                                                                           |                  |        |        |           |
| All ages.                    | 1 440 178                                | 25 149           | 23 332 | 23 186    | 71 667                       | 1 173 626                                                                 | 15 843           | 15 235 | 14 316 | 45 414    |
| Years.                       |                                          |                  |        |           |                              |                                                                           |                  |        |        |           |
| 0-1                          | 30 329                                   | 5 013            | 4 293  | 4 479     | 13 785                       | 26 759                                                                    | 3 171            | 2 729  | 2 556  | 8 456     |
| 1-2                          | 26 813                                   | 1 106            | 920    | 1 027     | 3 053                        | 24 854                                                                    | 695              | 529    | 510    | 1 734     |
| 2-3                          | 28 173                                   | 541              | 426    | 502       | 1 469                        | 21 970                                                                    | 290              | 258    | 229    | 777       |
| 3-4                          | 28 214                                   | 358              | 289    | 310       | 957                          | 26 399                                                                    | 188              | 181    | 153    | 522       |
| 4-5                          | 27 424                                   | 280              | 214    | 219       | 713                          | 26 030                                                                    | 131              | 118    | 114    | 363       |
| 5-9                          | 128 373                                  | 658              | 564    | 553       | 1 775                        | 130 328                                                                   | 461              | 366    | 415    | 1 245     |
| 10-14                        | 115 683                                  | 356              | 329    | 295       | 980                          | 122 853                                                                   | 337              | 291    | 295    | 923       |
| 15-19                        | 123 111                                  | 552              | 512    | 452       | 1 516                        | 116 978                                                                   | 529              | 526    | 513    | 1 568     |
| 20-24                        | 150 422                                  | 901              | 846    | 838       | 2 589                        | 111 015                                                                   | 712              | 686    | 662    | 2 060     |
| 25-29                        | 146 470                                  | 1 075            | 986    | 967       | 3 028                        | 96 975                                                                    | 777              | 673    | 612    | 2 062     |
| 30-34                        | 122 371                                  | 988              | 917    | 954       | 2 859                        | 85 932                                                                    | 657              | 633    | 539    | 1 829     |
| 35-39                        | 109 414                                  | 970              | 940    | 918       | 2 828                        | 78 091                                                                    | 614              | 585    | 577    | 1 776     |
| 40-44                        | 90 059                                   | 992              | 963    | 925       | 2 880                        | 68 716                                                                    | 569              | 574    | 552    | 1 695     |
| 45-49                        | 74 228                                   | 932              | 895    | 877       | 2 704                        | 56 501                                                                    | 553              | 545    | 503    | 1 601     |
| 50-54                        | 64 599                                   | 1 099            | 1 089  | 1 032     | 3 220                        | 48 092                                                                    | 596              | 651    | 527    | 1 774     |
| 55-59                        | 50 458                                   | 1 203            | 1 148  | 1 161     | 3 512                        | 40 466                                                                    | 660              | 694    | 612    | 1 966     |
| 60-64                        | 43 577                                   | 1 384            | 1 343  | 1 337     | 4 064                        | 31 822                                                                    | 762              | 816    | 812    | 2 390     |
| 65-69                        | 32 255                                   | 1 515            | 1 486  | 1 418     | 4 419                        | 24 082                                                                    | 921              | 992    | 947    | 2 960     |
| 70-74                        | 22 456                                   | 1 567            | 1 618  | 1 501     | 4 686                        | 15 876                                                                    | 967              | 995    | 990    | 2 952     |
| 75-79                        | 14 087                                   | 1 422            | 1 371  | 1 320     | 4 113                        | 9 718                                                                     | 933              | 1 019  | 953    | 2 905     |
| 80-84                        | 7 584                                    | 1 178            | 1 125  | 1 103     | 3 406                        | 4 797                                                                     | 742              | 778    | 738    | 2 258     |
| 85-89                        | 3 009                                    | 656              | 682    | 632       | 2 000                        | 1 778                                                                     | 370              | 416    | 364    | 1 150     |
| 90-94                        | 878                                      | 278              | 309    | 254       | 841                          | 440                                                                       | 143              | 154    | 128    | 425       |
| 95-99                        | 162                                      |                  |        |           |                              | 99                                                                        |                  |        |        |           |
| 100 and over                 | 29                                       | 92               | 67     | 82        | 241                          | 35                                                                        | 62               | 46     | 45     | 153       |
| NUMBER OF BIRTHS REGISTERED. |                                          |                  |        |           |                              | ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                  |        |        |           |
| CALENDAR YEAR.               | 1900                                     | 1901             | 1902   | 1901-1902 | CALENDAR YEAR.               | AGE INTERVALS OF ONE YEAR.                                                |                  |        |        |           |
|                              |                                          |                  |        |           |                              | 0-1                                                                       | 1-2              | 2-3    | 3-4    | 4-5       |
| Male births.....             | 37 772                                   | 37 004           | 37 057 | 111 833   | 1903<br>1901<br>1905<br>1906 | MALES.                                                                    |                  |        |        |           |
| Female births.....           | 35 614                                   | 34 972           | 35 162 | 105 748   |                              | 3 661                                                                     | 577              | 265    | 215    | 136       |
|                              |                                          |                  |        |           |                              | .....                                                                     | 549              | 277    | 151    | 126       |
|                              |                                          |                  |        |           |                              | .....                                                                     | .....            | 259    | 154    | 129       |
|                              |                                          |                  |        |           | 1903<br>1904<br>1905<br>1906 | FEMALES.                                                                  |                  |        |        |           |
|                              |                                          |                  |        |           |                              | 2 747                                                                     | 539              | 253    | 168    | 138       |
|                              |                                          |                  |        |           |                              | .....                                                                     | 506              | 225    | 135    | 116       |
|                              |                                          |                  |        |           |                              | .....                                                                     | .....            | 213    | 158    | 128       |

## UNITED STATES LIFE TABLES.

TABLE 181 POPULATION AND MORTALITY STATISTICS UPON WHICH ARE BASED THE  
LIFE TABLES FOR NEW JERSEY: 1901; AND NEW YORK: 1901.

Unknown ages distributed.

| NEW JERSEY: 1901.                                                         |                                          |                  |        |        |           | NEW YORK: 1901.                          |                  |        |        |           |
|---------------------------------------------------------------------------|------------------------------------------|------------------|--------|--------|-----------|------------------------------------------|------------------|--------|--------|-----------|
| AGE<br>INTERVAL.                                                          | Estimated<br>population<br>July 1, 1900. | REPORTED DEATHS. |        |        |           | Estimated<br>population<br>July 1, 1900. | REPORTED DEATHS. |        |        |           |
|                                                                           |                                          | 1900             | 1901   | 1902   | 1900-1902 |                                          | 1900             | 1901   | 1902   | 1900-1902 |
| MALES.                                                                    |                                          |                  |        |        |           |                                          |                  |        |        |           |
| 1                                                                         | 2                                        | 3                | 4      | 5      | 6         | 7                                        | 8                | 9      | 10     | 11        |
| All ages.                                                                 | 944 517                                  | 17 904           | 17 077 | 17 071 | 52 052    | 3 622 964                                | 69 687           | 70 070 | 66 841 | 206 598   |
| Years.                                                                    |                                          |                  |        |        |           |                                          |                  |        |        |           |
| 0-1                                                                       | 22 043                                   | 4 422            | 3 884  | 3 966  | 12 272    | 80 771                                   | 14 757           | 13 378 | 13 258 | 41 393    |
| 1-2                                                                       | 19 700                                   | 931              | 764    | 865    | 2 560     | 71 740                                   | 3 789            | 3 478  | 3 335  | 10 602    |
| 2-3                                                                       | 21 216                                   | 449              | 360    | 390    | 1 199     | 76 300                                   | 1 596            | 1 431  | 1 492  | 4 519     |
| 3-4                                                                       | 20 902                                   | 227              | 208    | 224    | 659       | 76 301                                   | 1 019            | 940    | 856    | 2 815     |
| 4-5                                                                       | 20 685                                   | 195              | 150    | 174    | 519       | 75 381                                   | 633              | 744    | 695    | 2 072     |
| 5-9                                                                       | 99 122                                   | 493              | 477    | 497    | 1 467     | 358 936                                  | 1 813            | 1 860  | 1 747  | 5 420     |
| 10-14                                                                     | 87 275                                   | 267              | 267    | 224    | 758       | 323 784                                  | 937              | 934    | 841    | 2 712     |
| 15-19                                                                     | 81 102                                   | 415              | 398    | 371    | 1 184     | 308 685                                  | 1 451            | 1 502  | 1 406  | 4 359     |
| 20-24                                                                     | 85 996                                   | 620              | 592    | 567    | 1 779     | 332 999                                  | 2 448            | 2 465  | 2 311  | 7 221     |
| 25-29                                                                     | 87 994                                   | 760              | 742    | 725    | 2 227     | 343 760                                  | 3 087            | 3 262  | 2 788  | 9 137     |
| 30-34                                                                     | 81 991                                   | 755              | 806    | 799    | 2 360     | 316 901                                  | 3 362            | 3 458  | 3 306  | 10 126    |
| 35-39                                                                     | 75 079                                   | 852              | 811    | 906    | 2 569     | 289 429                                  | 3 573            | 3 688  | 3 537  | 10 738    |
| 40-44                                                                     | 62 019                                   | 780              | 803    | 815    | 2 398     | 241 826                                  | 3 442            | 3 677  | 3 457  | 10 676    |
| 45-49                                                                     | 47 250                                   | 757              | 789    | 820    | 2 366     | 187 577                                  | 3 183            | 3 379  | 3 164  | 9 726     |
| 50-54                                                                     | 40 334                                   | 775              | 856    | 844    | 2 475     | 158 270                                  | 3 382            | 3 546  | 3 412  | 10 340    |
| 55-59                                                                     | 30 296                                   | 888              | 900    | 829    | 2 587     | 118 601                                  | 3 309            | 3 536  | 3 434  | 10 279    |
| 60-64                                                                     | 24 074                                   | 968              | 954    | 876    | 2 798     | 96 072                                   | 3 529            | 3 824  | 3 693  | 11 046    |
| 65-69                                                                     | 16 353                                   | 931              | 963    | 921    | 2 815     | 68 230                                   | 3 648            | 3 857  | 3 670  | 11 175    |
| 70-74                                                                     | 11 020                                   | 869              | 843    | 870    | 2 582     | 48 715                                   | 3 611            | 3 732  | 3 616  | 10 959    |
| 75-79                                                                     | 6 246                                    | 752              | 712    | 682    | 2 146     | 29 100                                   | 3 303            | 3 238  | 3 084  | 9 625     |
| 80-84                                                                     | 2 753                                    | 519              | 492    | 445    | 1 456     | 13 803                                   | 2 284            | 2 522  | 2 292  | 7 098     |
| 85-89                                                                     | 861                                      | 224              | 226    | 178    | 628       | 4 565                                    | 1 097            | 1 176  | 1 040  | 3 313     |
| 90-94                                                                     | 168                                      | 64               | 64     | 66     | 194       | 994                                      | 354              | 348    | 326    | 1 028     |
| 95-99                                                                     | 33                                       |                  |        |        |           | 180                                      |                  |        |        |           |
| 100 and over                                                              | 5                                        | 21               | 16     | 17     | 54        | 38                                       | 80               | 95     | 81     | 256       |
| FEMALES.                                                                  |                                          |                  |        |        |           |                                          |                  |        |        |           |
| All ages.                                                                 | 944 667                                  | 15 535           | 14 714 | 14 311 | 44 560    | 3 661 497                                | 62 665           | 61 391 | 57 816 | 181 872   |
| Years.                                                                    |                                          |                  |        |        |           |                                          |                  |        |        |           |
| 0-1                                                                       | 21 743                                   | 3 398            | 3 025  | 3 095  | 9 518     | 79 259                                   | 12 054           | 10 667 | 10 604 | 33 325    |
| 1-2                                                                       | 19 308                                   | 895              | 675    | 775    | 2 345     | 70 658                                   | 3 284            | 3 017  | 3 001  | 9 302     |
| 2-3                                                                       | 20 836                                   | 372              | 293    | 358    | 1 023     | 75 295                                   | 1 460            | 1 323  | 1 348  | 4 131     |
| 3-4                                                                       | 20 595                                   | 250              | 215    | 208    | 673       | 75 456                                   | 913              | 860    | 819    | 2 592     |
| 4-5                                                                       | 20 438                                   | 190              | 147    | 163    | 500       | 74 683                                   | 715              | 697    | 597    | 2 009     |
| 5-9                                                                       | 98 575                                   | 463              | 424    | 449    | 1 336     | 356 644                                  | 1 746            | 1 739  | 1 510  | 4 995     |
| 10-14                                                                     | 87 934                                   | 274              | 215    | 203    | 692       | 322 185                                  | 959              | 859    | 806    | 2 624     |
| 15-19                                                                     | 86 469                                   | 352              | 363    | 343    | 1 058     | 334 659                                  | 1 465            | 1 440  | 1 363  | 4 268     |
| 20-24                                                                     | 93 114                                   | 549              | 586    | 544    | 1 679     | 372 772                                  | 2 450            | 2 271  | 2 177  | 6 898     |
| 25-29                                                                     | 89 287                                   | 679              | 597    | 663    | 1 939     | 353 921                                  | 2 831            | 2 712  | 2 561  | 8 104     |
| 30-34                                                                     | 77 652                                   | 672              | 629    | 599    | 1 900     | 302 644                                  | 2 748            | 2 763  | 2 597  | 8 108     |
| 35-39                                                                     | 69 737                                   | 656              | 598    | 600    | 1 854     | 273 404                                  | 2 726            | 2 731  | 2 542  | 7 999     |
| 40-44                                                                     | 56 451                                   | 584              | 635    | 569    | 1 788     | 222 914                                  | 2 518            | 2 632  | 2 493  | 7 643     |
| 45-49                                                                     | 45 320                                   | 552              | 574    | 559    | 1 685     | 181 751                                  | 2 575            | 2 395  | 2 333  | 7 303     |
| 50-54                                                                     | 38 971                                   | 652              | 646    | 649    | 1 947     | 156 736                                  | 2 849            | 2 904  | 2 705  | 8 458     |
| 55-59                                                                     | 30 250                                   | 737              | 684    | 651    | 2 072     | 122 006                                  | 3 015            | 3 095  | 2 833  | 8 943     |
| 60-64                                                                     | 25 395                                   | 762              | 839    | 763    | 2 364     | 103 120                                  | 3 410            | 3 685  | 3 231  | 10 326    |
| 65-69                                                                     | 17 770                                   | 840              | 831    | 759    | 2 430     | 74 996                                   | 3 510            | 3 719  | 3 476  | 10 705    |
| 70-74                                                                     | 12 281                                   | 864              | 887    | 747    | 2 518     | 52 607                                   | 3 663            | 3 805  | 3 519  | 10 987    |
| 75-79                                                                     | 7 120                                    | 741              | 751    | 693    | 2 185     | 31 968                                   | 3 290            | 3 453  | 3 054  | 9 797     |
| 80-84                                                                     | 3 023                                    | 535              | 604    | 532    | 1 671     | 15 923                                   | 2 468            | 2 576  | 2 388  | 7 432     |
| 85-89                                                                     | 1 337                                    | 334              | 316    | 256    | 906       | 5 895                                    | 1 353            | 1 373  | 1 227  | 3 953     |
| 90-94                                                                     | 365                                      | 127              | 143    | 111    | 381       | 1 595                                    | 498              | 519    | 490    | 1 507     |
| 95-99                                                                     | 60                                       |                  |        |        |           | 349                                      |                  |        |        |           |
| 100 and over                                                              | 16                                       | 37               | 37     | 22     | 96        | 57                                       | 165              | 156    | 142    | 463       |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                          |                  |        |        |           |                                          |                  |        |        |           |
| CALENDAR<br>YEAR.                                                         | AGE INTERVALS OF ONE YEAR.               |                  |        |        |           | AGE INTERVALS OF ONE YEAR.               |                  |        |        |           |
|                                                                           | 0-1                                      | 1-2              | 2-3    | 3-4    | 4-5       | 0-1                                      | 1-2              | 2-3    | 3-4    | 4-5       |
| MALES.                                                                    |                                          |                  |        |        |           |                                          |                  |        |        |           |
| 1903                                                                      | 3 601                                    | 767              | 340    | 217    | .....     | 12 034                                   | 2 882            | 1 315  | 787    | .....     |
| 1904                                                                      | .....                                    | 907              | 443    | 293    | 195       | .....                                    | 3 484            | 1 515  | 933    | 704       |
| 1905                                                                      | .....                                    | .....            | 343    | 213    | 164       | .....                                    | .....            | 1 372  | 876    | 610       |
| 1906                                                                      | .....                                    | .....            | .....  | 244    | 194       | .....                                    | .....            | .....  | 899    | 587       |
| FEMALES.                                                                  |                                          |                  |        |        |           |                                          |                  |        |        |           |
| 1903                                                                      | 2 884                                    | 660              | 315    | 217    | .....     | 10 293                                   | 2 637            | 1 229  | 762    | .....     |
| 1904                                                                      | .....                                    | 839              | 369    | 238    | 179       | .....                                    | 3 172            | 1 357  | 892    | 640       |
| 1905                                                                      | .....                                    | .....            | 333    | 215    | 165       | .....                                    | .....            | 1 283  | 789    | 536       |
| 1906                                                                      | .....                                    | .....            | .....  | 250    | 171       | .....                                    | .....            | .....  | 787    | 527       |

TABLE 182 POPULATION AND MORTALITY STATISTICS UPON WHICH ARE BASED THE  
LIFE TABLES FOR THE CITY OF BOSTON.

Unknown ages distributed.

| AGE<br>INTERVAL.             | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |       |           |                    | ESTIMATED<br>POPULATION<br>JULY 1, 1900. | REPORTED DEATHS. |       |           |           |
|------------------------------|------------------------------------------|------------------|-------|-----------|--------------------|------------------------------------------|------------------|-------|-----------|-----------|
|                              |                                          | 1909             | 1910  | 1911      | 1909-1911          |                                          | 1900             | 1901  | 1902      | 1900-1902 |
| MALES: 1910.                 |                                          |                  |       |           |                    | MALES: 1901.                             |                  |       |           |           |
| 1                            | 2                                        | 3                | 4     | 5         | 6                  | 7                                        | 8                | 9     | 10        | 11        |
| All ages.                    | 330 841                                  | 5 797            | 6 049 | 6 234     | 18 080             | 275 376                                  | 5 840            | 5 901 | 5 661     | 17 402    |
| Years.                       |                                          |                  |       |           |                    |                                          |                  |       |           |           |
| 0-1                          | 6 972                                    | 1 157            | 1 252 | 1 266     | 3 675              | 6 270                                    | 1 333            | 1 262 | 1 206     | 3 801     |
| 1-2                          | 6 305                                    | 243              | 258   | 254       | 755                | 5 623                                    | 331              | 324   | 335       | 990       |
| 2-3                          | 6 646                                    | 123              | 109   | 87        | 319                | 5 812                                    | 155              | 157   | 125       | 437       |
| 3-4                          | 6 507                                    | 72               | 77    | 75        | 224                | 5 714                                    | 132              | 106   | 62        | 300       |
| 4-5                          | 5 985                                    | 44               | 38    | 57        | 139                | 5 462                                    | 72               | 72    | 51        | 195       |
| 6-9                          |                                          |                  |       |           |                    |                                          |                  |       |           |           |
| 0-4                          | 32 415                                   | 1 639            | 1 734 | 1 739     | 5 112              | 28 581                                   | 2 023            | 1 921 | 1 779     | 5 723     |
| 5-9                          | 28 702                                   | 108              | 128   | 114       | 350                | 24 713                                   | 162              | 170   | 129       | 461       |
| 10-14                        | 27 722                                   | 58               | 63    | 59        | 200                | 21 390                                   | 63               | 66    | 73        | 202       |
| 15-19                        | 27 201                                   | 107              | 116   | 106       | 329                | 20 142                                   | 131              | 115   | 134       | 380       |
| 20-24                        | 32 763                                   | 168              | 154   | 178       | 500                | 26 432                                   | 229              | 221   | 224       | 674       |
| 25-29                        | 33 646                                   | 211              | 241   | 248       | 700                | 32 042                                   | 321              | 357   | 307       | 985       |
| 30-34                        | 29 986                                   | 269              | 295   | 305       | 869                | 28 858                                   | 311              | 361   | 311       | 983       |
| 35-39                        | 29 368                                   | 357              | 336   | 377       | 1 070              | 25 083                                   | 343              | 365   | 300       | 1 008     |
| 40-44                        | 24 323                                   | 355              | 378   | 418       | 1 151              | 19 053                                   | 282              | 301   | 333       | 916       |
| 45-49                        | 19 904                                   | 368              | 366   | 380       | 1 114              | 14 105                                   | 269              | 290   | 276       | 835       |
| 50-54                        | 15 422                                   | 398              | 408   | 420       | 1 226              | 12 035                                   | 295              | 292   | 324       | 911       |
| 55-59                        | 10 313                                   | 333              | 345   | 359       | 1 037              | 8 048                                    | 297              | 297   | 290       | 884       |
| 60-64                        | 7 769                                    | 356              | 444   | 400       | 1 200              | 6 222                                    | 275              | 293   | 333       | 901       |
| 65-69                        | 5 355                                    | 318              | 335   | 377       | 1 030              | 3 833                                    | 278              | 294   | 278       | 850       |
| 70-74                        | 3 132                                    | 325              | 253   | 328       | 906                | 2 408                                    | 218              | 209   | 208       | 635       |
| 75-79                        | 1 709                                    | 190              | 213   | 211       | 614                | 1 310                                    | 160              | 176   | 178       | 514       |
| 80-84                        | 782                                      | 145              | 131   | 126       | 402                | 590                                      | 114              | 113   | 112       | 339       |
| 85-89                        | 259                                      | 73               | 61    | 60        | 194                | 177                                      | 50               | 36    | 54        | 140       |
| 90-94                        | 58                                       | 16               | 24    | 26        | 66                 | 41                                       | 16               | 16    | 15        | 47        |
| 95-99                        | 10                                       | 2                | 3     | 2         | 7                  |                                          |                  |       |           |           |
| 100 and over                 | 2                                        | 1                | 1     | 1         | 3                  | 13                                       | 3                | 8     | 3         | 14        |
| FEMALES: 1910.               |                                          |                  |       |           |                    | FEMALES: 1901.                           |                  |       |           |           |
| All ages.                    | 342 058                                  | 5 259            | 5 513 | 5 531     | 16 303             | 286 442                                  | 5 610            | 5 396 | 5 338     | 16 344    |
| Years.                       |                                          |                  |       |           |                    |                                          |                  |       |           |           |
| 0-1                          | 6 658                                    | 967              | 995   | 980       | 2 942              | 6 286                                    | 1 054            | 1 026 | 1 059     | 3 139     |
| 1-2                          | 0 099                                    | 225              | 204   | 221       | 650                | 5 455                                    | 265              | 252   | 273       | 790       |
| 2-3                          | 6 600                                    | 101              | 85    | 92        | 278                | 5 821                                    | 174              | 128   | 134       | 436       |
| 3-4                          | 6 488                                    | 57               | 61    | 52        | 170                | 5 767                                    | 107              | 85    | 73        | 265       |
| 4-5                          | 5 749                                    | 40               | 40    | 36        | 116                | 5 529                                    | 89               | 69    | 57        | 215       |
| 6-9                          |                                          |                  |       |           |                    |                                          |                  |       |           |           |
| 0-4                          | 31 594                                   | 1 390            | 1 385 | 1 351     | 4 156              | 28 858                                   | 1 689            | 1 560 | 1 596     | 4 845     |
| 5-9                          | 28 330                                   | 110              | 118   | 103       | 331                | 24 506                                   | 171              | 154   | 122       | 447       |
| 10-14                        | 27 841                                   | 86               | 79    | 61        | 226                | 21 252                                   | 72               | 81    | 77        | 230       |
| 15-19                        | 28 914                                   | 119              | 104   | 114       | 337                | 22 392                                   | 112              | 123   | 91        | 326       |
| 20-24                        | 34 687                                   | 183              | 169   | 147       | 499                | 31 612                                   | 211              | 228   | 228       | 667       |
| 25-29                        | 34 360                                   | 216              | 188   | 241       | 645                | 33 271                                   | 308              | 274   | 271       | 853       |
| 30-34                        | 30 919                                   | 222              | 214   | 200       | 636                | 27 233                                   | 262              | 254   | 293       | 809       |
| 35-39                        | 29 616                                   | 269              | 274   | 272       | 815                | 23 786                                   | 260              | 280   | 269       | 809       |
| 40-44                        | 24 100                                   | 293              | 281   | 267       | 841                | 18 109                                   | 245              | 256   | 263       | 764       |
| 45-49                        | 19 703                                   | 235              | 290   | 298       | 823                | 14 486                                   | 230              | 218   | 228       | 676       |
| 50-54                        | 15 625                                   | 270              | 324   | 323       | 917                | 12 449                                   | 273              | 288   | 234       | 795       |
| 55-59                        | 11 058                                   | 279              | 255   | 327       | 891                | 8 749                                    | 271              | 268   | 267       | 806       |
| 60-64                        | 9 429                                    | 367              | 350   | 411       | 1 128              | 7 558                                    | 291              | 296   | 307       | 894       |
| 65-69                        | 0 645                                    | 329              | 379   | 392       | 1 100              | 4 948                                    | 328              | 287   | 293       | 908       |
| 70-74                        | 4 590                                    | 314              | 356   | 337       | 1 007              | 3 459                                    | 295              | 302   | 274       | 871       |
| 75-79                        | 2 643                                    | 230              | 325   | 272       | 827                | 2 013                                    | 238              | 222   | 225       | 685       |
| 80-84                        | 1 325                                    | 199              | 223   | 230       | 652                | 1 038                                    | 199              | 154   | 156       | 509       |
| 85-89                        | 511                                      | 100              | 121   | 101       | 322                | 379                                      | 102              | 108   | 100       | 310       |
| 90-94                        | 133                                      | 38               | 36    | 42        | 116                | 128                                      | 41               | 38    | 33        | 112       |
| 95-99                        | 31                                       | 8                | 8     | 12        | 28                 |                                          |                  |       |           |           |
| 100 and over                 | 4                                        | 2                | 4     | 0         | 6                  | 16                                       | 12               | 5     | 11        | 28        |
| NUMBER OF BIRTHS REGISTERED. |                                          |                  |       |           |                    |                                          |                  |       |           |           |
| CALENDAR YEAR.               | 1909                                     | 1910             | 1911  | 1909-1911 | CALENDAR YEAR.     | 1900                                     | 1901             | 1902  | 1900-1902 |           |
| Male births.....             | 9 145                                    | 8 943            | 9 190 | 27 278    | Male births.....   | 8 376                                    | 7 944            | 7 936 | 24 256    |           |
| Female births.....           | 8 549                                    | 8 708            | 8 767 | 26 024    | Female births..... | 7 975                                    | 7 636            | 7 613 | 23 224    |           |

\* Only the total number of births, 17,957, was reported in 1911. See fifth paragraph of section 276 on page 424.

## UNITED STATES LIFE TABLES.

TABLE 183 POPULATION AND MORTALITY STATISTICS UPON WHICH ARE BASED THE  
LIFE TABLES FOR THE CITY OF CHICAGO.

Unknown ages distributed.

| AGE<br>INTERVAL                                                           | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |        |        |           | ESTIMATED<br>POPULATION<br>JULY 1, 1900. | REPORTED DEATHS. |        |        |           |
|---------------------------------------------------------------------------|------------------------------------------|------------------|--------|--------|-----------|------------------------------------------|------------------|--------|--------|-----------|
|                                                                           |                                          | 1909             | 1910   | 1911   | 1909-1911 |                                          | 1900             | 1901   | 1902   | 1900-1902 |
| MALES: 1910.                                                              |                                          |                  |        |        |           | MALES: 1901.                             |                  |        |        |           |
| 1                                                                         | 2                                        | 3                | 4      | 5      | 6         | 7                                        | 8                | 9      | 10     | 11        |
| All ages.                                                                 | 1 131 054                                | 17 871           | 19 169 | 18 947 | 55 987    | 865 496                                  | 14 382           | 13 510 | 14 991 | 42 883    |
| Years.                                                                    |                                          |                  |        |        |           |                                          |                  |        |        |           |
| 0-1                                                                       | 25 023                                   | 3 601            | 3 861  | 3 658  | 11 120    | 20 019                                   | 3 069            | 2 829  | 2 880  | 8 778     |
| 1-2                                                                       | 21 997                                   | 832              | 918    | 762    | 2 512     | 18 028                                   | 766              | 668    | 811    | 2 245     |
| 2-3                                                                       | 23 535                                   | 350              | 413    | 355    | 1 118     | 19 215                                   | 370              | 282    | 326    | 978       |
| 3-4                                                                       | 22 371                                   | 220              | 227    | 258    | 705       | 19 251                                   | 227              | 183    | 233    | 643       |
| 4-5                                                                       | 21 183                                   | 158              | 179    | 183    | 520       | 19 513                                   | 189              | 138    | 170    | 497       |
| 0-4                                                                       | 114 109                                  | 5 161            | 5 598  | 5 216  | 15 975    | 96 056                                   | 4 621            | 4 100  | 4 120  | 13 111    |
| 5-9                                                                       | 97 135                                   | 409              | 415    | 487    | 1 311     | 93 932                                   | 515              | 377    | 520    | 1 412     |
| 10-14                                                                     | 93 599                                   | 236              | 224    | 265    | 725       | 79 850                                   | 283              | 225    | 273    | 781       |
| 15-19                                                                     | 101 408                                  | 368              | 421    | 433    | 1 222     | 70 282                                   | 351              | 393    | 413    | 1 137     |
| 20-24                                                                     | 126 972                                  | 657              | 720    | 779    | 2 156     | 79 081                                   | 522              | 539    | 635    | 1 696     |
| 25-29                                                                     | 127 301                                  | 827              | 928    | 860    | 2 615     | 88 025                                   | 616              | 651    | 692    | 1 989     |
| 30-34                                                                     | 106 307                                  | 948              | 902    | 969    | 2 819     | 87 014                                   | 758              | 715    | 890    | 2 363     |
| 35-39                                                                     | 92 375                                   | 1 058            | 1 031  | 1 181  | 3 270     | 79 365                                   | 819              | 873    | 968    | 2 660     |
| 40-44                                                                     | 78 952                                   | 1 125            | 1 273  | 1 240  | 3 638     | 62 206                                   | 892              | 879    | 1 039  | 2 810     |
| 45-49                                                                     | 64 704                                   | 1 326            | 1 341  | 1 337  | 4 004     | 41 670                                   | 812              | 746    | 908    | 2 466     |
| 50-54                                                                     | 49 411                                   | 1 180            | 1 322  | 1 396  | 3 898     | 32 209                                   | 817              | 790    | 593    | 2 500     |
| 55-59                                                                     | 29 558                                   | 1 017            | 1 140  | 1 150  | 3 307     | 21 081                                   | 695              | 693    | 759    | 2 147     |
| 60-64                                                                     | 20 850                                   | 991              | 956    | 1 011  | 2 958     | 15 133                                   | 662              | 611    | 656    | 1 929     |
| 65-69                                                                     | 13 563                                   | 825              | 980    | 930    | 2 735     | 9 302                                    | 639              | 606    | 603    | 1 848     |
| 70-74                                                                     | 7 953                                    | 677              | 734    | 661    | 2 072     | 5 739                                    | 503              | 562    | 557    | 1 622     |
| 75-79                                                                     | 4 207                                    | 532              | 575    | 535    | 1 642     | 2 881                                    | 397              | 354    | 384    | 1 135     |
| 80-84                                                                     | 1 785                                    | 331              | 350    | 303    | 984       | 1 208                                    | 241              | 232    | 235    | 708       |
| 85-89                                                                     | 649                                      | 142              | 175    | 136    | 453       | 316                                      | 106              | 95     | 102    | 303       |
| 90-94                                                                     | 158                                      | 52               | 45     | 49     | 146       | 85                                       | 29               | 26     | 35     | 90        |
| 95-99                                                                     | 19                                       | 8                | 7      | 9      | 24        |                                          |                  |        |        |           |
| 100 and over                                                              | 9                                        | 1                | 2      | .....  | 3         | 22                                       | 14               | 13     | 9      | 36        |
| FEMALES: 1910.                                                            |                                          |                  |        |        |           | FEMALES: 1901.                           |                  |        |        |           |
| All ages.                                                                 | 1 064 497                                | 13 425           | 14 072 | 13 584 | 41 081    | 837 180                                  | 11 680           | 10 998 | 11 494 | 34 142    |
| Years.                                                                    |                                          |                  |        |        |           |                                          |                  |        |        |           |
| 0-1                                                                       | 24 463                                   | 2 785            | 2 985  | 2 595  | 8 365     | 19 568                                   | 2 375            | 2 207  | 2 271  | 6 853     |
| 1-2                                                                       | 21 261                                   | 754              | 767    | 651    | 2 175     | 17 815                                   | 760              | 618    | 661    | 2 069     |
| 2-3                                                                       | 22 909                                   | 319              | 329    | 283    | 981       | 18 848                                   | 351              | 240    | 302    | 893       |
| 3-4                                                                       | 22 217                                   | 196              | 229    | 227    | 652       | 19 371                                   | 235              | 150    | 202    | 587       |
| 4-5                                                                       | 20 696                                   | 147              | 174    | 156    | 477       | 19 691                                   | 189              | 157    | 169    | 515       |
| 0-4                                                                       | 111 516                                  | 4 201            | 4 524  | 3 925  | 12 650    | 95 323                                   | 3 910            | 3 102  | 3 605  | 10 917    |
| 5-9                                                                       | 95 776                                   | 365              | 396    | 436    | 1 197     | 94 472                                   | 497              | 350    | 496    | 1 343     |
| 10-14                                                                     | 93 771                                   | 211              | 216    | 232    | 659       | 81 364                                   | 227              | 177    | 259    | 663       |
| 15-19                                                                     | 108 722                                  | 367              | 355    | 357    | 1 099     | 77 369                                   | 310              | 375    | 372    | 1 057     |
| 20-24                                                                     | 125 965                                  | 595              | 581    | 601    | 1 783     | 87 853                                   | 530              | 510    | 518    | 1 588     |
| 25-29                                                                     | 111 449                                  | 609              | 583    | 641    | 1 833     | 87 764                                   | 603              | 627    | 595    | 1 825     |
| 30-34                                                                     | 90 282                                   | 613              | 618    | 605    | 1 836     | 76 989                                   | 610              | 569    | 591    | 1 773     |
| 35-39                                                                     | 81 596                                   | 669              | 660    | 662    | 1 991     | 66 813                                   | 576              | 601    | 596    | 1 773     |
| 40-44                                                                     | 67 538                                   | 613              | 660    | 647    | 1 920     | 48 840                                   | 512              | 500    | 570    | 1 582     |
| 45-49                                                                     | 55 600                                   | 723              | 720    | 710    | 2 153     | 35 544                                   | 482              | 476    | 486    | 1 444     |
| 50-54                                                                     | 41 791                                   | 619              | 696    | 745    | 2 090     | 28 477                                   | 489              | 515    | 557    | 1 561     |
| 55-59                                                                     | 27 045                                   | 613              | 688    | 661    | 1 992     | 19 200                                   | 591              | 502    | 475    | 1 478     |
| 60-64                                                                     | 20 979                                   | 678              | 670    | 718    | 2 066     | 14 914                                   | 531              | 513    | 495    | 1 539     |
| 65-69                                                                     | 14 230                                   | 702              | 682    | 705    | 2 089     | 10 124                                   | 571              | 528    | 539    | 1 638     |
| 70-74                                                                     | 9 113                                    | 632              | 695    | 625    | 1 952     | 6 383                                    | 479              | 462    | 453    | 1 391     |
| 75-79                                                                     | 5 279                                    | 526              | 576    | 600    | 1 702     | 3 525                                    | 380              | 377    | 366    | 1 123     |
| 80-84                                                                     | 2 488                                    | 335              | 412    | 380    | 1 127     | 1 617                                    | 255              | 284    | 281    | 853       |
| 85-89                                                                     | 967                                      | 201              | 204    | 222    | 627       | 532                                      | 120              | 134    | 135    | 389       |
| 90-94                                                                     | 245                                      | 73               | 80     | 81     | 234       | 134                                      | 49               | 48     | 45     | 142       |
| 95-99                                                                     | 52                                       | 13               | 19     | 24     | 56        |                                          |                  |        |        |           |
| 100 and over                                                              | 10                                       | 7                | 4      | 4      | 15        | 49                                       | 18               | 18     | 24     | 60        |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                          |                  |        |        |           |                                          |                  |        |        |           |
| CALENDAR<br>YEAR.                                                         | MALES.                                   |                  |        |        |           | FEMALES.                                 |                  |        |        |           |
|                                                                           | AGE INTERVALS OF ONE YEAR.               |                  |        |        |           | AGE INTERVALS OF ONE YEAR.               |                  |        |        |           |
|                                                                           | 0-1                                      | 1-2              | 2-3    | 3-4    | 4-5       | 0-1                                      | 1-2              | 2-3    | 3-4    | 4-5       |
| 1903                                                                      | 3 014                                    | 801              | 362    | 235    | .....     | 2 254                                    | 728              | 338    | 221    | .....     |
| 1904                                                                      | .....                                    | 567              | 219    | 151    | 118       | .....                                    | 525              | 195    | 153    | 111       |
| 1905                                                                      | .....                                    | .....            | 300    | 185    | 118       | .....                                    | .....            | 293    | 172    | 112       |
| 1906                                                                      | .....                                    | .....            | .....  | 212    | 157       | .....                                    | .....            | .....  | 201    | 149       |
| 1912                                                                      | 3 821                                    | 860              | 372    | 285    | .....     | 2 858                                    | 804              | 396    | 245    | .....     |
| 1913                                                                      | .....                                    | 918              | 461    | 297    | 221       | .....                                    | 805              | 403    | 296    | 221       |

TABLE 184 POPULATION AND MORTALITY STATISTICS UPON WHICH ARE BASED THE  
LIFE TABLES FOR THE CITY OF NEW YORK.

Unknown ages distributed.

| AGE<br>INTERVAL.                                                          | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |        |           |                    | ESTIMATED<br>POPULATION<br>JULY 1, 1900. | REPORTED DEATHS. |        |           |           |
|---------------------------------------------------------------------------|------------------------------------------|------------------|--------|-----------|--------------------|------------------------------------------|------------------|--------|-----------|-----------|
|                                                                           |                                          | 1909             | 1910   | 1911      | 1909-1911          |                                          | 1900             | 1901   | 1902      | 1900-1902 |
| MALES: 1910.                                                              |                                          |                  |        |           |                    | MALES: 1901.                             |                  |        |           |           |
| 1                                                                         | 2                                        | 3                | 4      | 5         | 6                  | 7                                        | 8                | 9      | 10        | 11        |
| All ages.                                                                 | 2 396 502                                | 40 388           | 41 763 | 41 118    | 123 269            | 1 711 273                                | 38 029           | 38 174 | 36 899    | 113 102   |
| Years.                                                                    |                                          |                  |        |           |                    |                                          |                  |        |           |           |
| 0-1                                                                       | 56 490                                   | 8 812            | 8 829  | 8 182     | 25 823             | 44 002                                   | 9 190            | 8 493  | 8 545     | 26 228    |
| 1-2                                                                       | 49 429                                   | 2 505            | 2 305  | 2 093     | 6 903              | 37 721                                   | 2 625            | 2 499  | 2 453     | 7 577     |
| 2-3                                                                       | 53 514                                   | 1 085            | 1 032  | 861       | 2 978              | 40 336                                   | 1 101            | 971    | 1 062     | 3 134     |
| 3-4                                                                       | 50 967                                   | 573              | 546    | 492       | 1 611              | 39 886                                   | 687              | 652    | 610       | 1 949     |
| 4-5                                                                       | 47 395                                   | 373              | 369    | 346       | 1 088              | 38 823                                   | 400              | 496    | 473       | 1 369     |
| 0-4                                                                       | 257 795                                  | 13 348           | 13 081 | 11 974    | 38 403             | 200 768                                  | 14 003           | 13 111 | 13 143    | 40 257    |
| 5-9                                                                       | 220 882                                  | 891              | 946    | 933       | 2 770              | 178 557                                  | 1 072            | 1 152  | 1 097     | 3 321     |
| 10-14                                                                     | 212 300                                  | 513              | 509    | 474       | 1 496              | 150 721                                  | 426              | 464    | 441       | 1 331     |
| 15-19                                                                     | 217 817                                  | 767              | 894    | 872       | 2 533              | 141 435                                  | 689              | 742    | 720       | 2 151     |
| 20-24                                                                     | 253 249                                  | 1 324            | 1 405  | 1 326     | 4 055              | 162 870                                  | 1 393            | 1 380  | 1 269     | 4 051     |
| 25-29                                                                     | 255 584                                  | 1 723            | 1 769  | 1 734     | 5 226              | 179 361                                  | 1 922            | 1 964  | 1 700     | 5 586     |
| 30-34                                                                     | 221 598                                  | 2 065            | 2 130  | 2 124     | 6 319              | 165 685                                  | 2 158            | 2 305  | 2 202     | 6 665     |
| 35-39                                                                     | 198 166                                  | 2 494            | 2 534  | 2 646     | 7 674              | 147 536                                  | 2 372            | 2 402  | 2 328     | 7 102     |
| 40-44                                                                     | 162 627                                  | 2 544            | 2 661  | 2 744     | 7 949              | 111 981                                  | 2 175            | 2 400  | 2 202     | 6 777     |
| 45-49                                                                     | 128 577                                  | 2 535            | 2 673  | 2 765     | 7 973              | 80 702                                   | 1 923            | 1 990  | 1 883     | 5 796     |
| 50-54                                                                     | 99 311                                   | 2 470            | 2 680  | 2 732     | 7 882              | 66 591                                   | 2 027            | 2 027  | 1 978     | 6 032     |
| 55-59                                                                     | 61 554                                   | 2 039            | 2 326  | 2 425     | 6 790              | 45 122                                   | 1 757            | 1 899  | 1 799     | 5 455     |
| 60-64                                                                     | 45 366                                   | 2 220            | 2 349  | 2 415     | 6 984              | 33 998                                   | 1 674            | 1 863  | 1 824     | 5 366     |
| 65-69                                                                     | 29 807                                   | 1 947            | 2 018  | 2 111     | 6 076              | 20 042                                   | 1 481            | 1 516  | 1 507     | 4 504     |
| 70-74                                                                     | 17 928                                   | 1 484            | 1 659  | 1 689     | 4 832              | 13 051                                   | 1 280            | 1 233  | 1 204     | 3 717     |
| 75-79                                                                     | 8 590                                    | 1 064            | 1 062  | 1 092     | 3 218              | 6 269                                    | 907              | 878    | 849       | 2 634     |
| 80-84                                                                     | 3 732                                    | 559              | 635    | 654       | 1 848              | 2 581                                    | 475              | 542    | 475       | 1 492     |
| 85-89                                                                     | 1 258                                    | 298              | 312    | 302       | 912                | 791                                      | 219              | 218    | 204       | 641       |
| 90-94                                                                     | 303                                      | 77               | 87     | 85        | 249                | 168                                      | 57               | 52     | 65        | 174       |
| 95-99                                                                     | 46                                       | 19               | 22     | 16        | 57                 |                                          |                  |        |           |           |
| 100 and over                                                              | 12                                       | 7                | 11     | 5         | 23                 | 41                                       | 19               | 22     | 9         | 50        |
| FEMALES: 1910.                                                            |                                          |                  |        |           |                    | FEMALES: 1901.                           |                  |        |           |           |
| All ages.                                                                 | 2 398 433                                | 33 875           | 35 024 | 34 211    | 103 110            | 1 737 150                                | 32 838           | 32 434 | 31 087    | 96 359    |
| Years.                                                                    |                                          |                  |        |           |                    |                                          |                  |        |           |           |
| 0-1                                                                       | 54 842                                   | 7 109            | 7 332  | 6 847     | 21 288             | 43 016                                   | 7 438            | 6 914  | 6 981     | 21 333    |
| 1-2                                                                       | 48 099                                   | 2 301            | 2 045  | 1 775     | 6 121              | 37 326                                   | 2 299            | 2 193  | 2 200     | 6 692     |
| 2-3                                                                       | 52 611                                   | 845              | 878    | 767       | 2 490              | 39 941                                   | 1 005            | 906    | 985       | 2 896     |
| 3-4                                                                       | 50 518                                   | 559              | 561    | 513       | 1 633              | 39 479                                   | 610              | 594    | 566       | 1 770     |
| 4-5                                                                       | 46 927                                   | 363              | 321    | 327       | 1 011              | 38 684                                   | 448              | 462    | 412       | 1 322     |
| 0-4                                                                       | 252 997                                  | 11 177           | 11 137 | 10 229    | 32 543             | 198 446                                  | 11 800           | 11 069 | 11 144    | 34 013    |
| 5-9                                                                       | 220 590                                  | 863              | 904    | 822       | 2 589              | 177 912                                  | 1 019            | 991    | 971       | 2 981     |
| 10-14                                                                     | 213 224                                  | 459              | 506    | 464       | 1 429              | 152 005                                  | 438              | 440    | 469       | 1 347     |
| 15-19                                                                     | 243 150                                  | 739              | 765    | 787       | 2 291              | 162 786                                  | 712              | 706    | 705       | 2 123     |
| 20-24                                                                     | 282 515                                  | 1 228            | 1 289  | 1 320     | 3 837              | 193 693                                  | 1 356            | 1 254  | 1 276     | 3 886     |
| 25-29                                                                     | 247 220                                  | 1 479            | 1 503  | 1 410     | 4 392              | 185 795                                  | 1 689            | 1 587  | 1 562     | 4 838     |
| 30-34                                                                     | 203 946                                  | 1 494            | 1 572  | 1 505     | 4 571              | 153 819                                  | 1 634            | 1 624  | 1 566     | 4 824     |
| 35-39                                                                     | 186 858                                  | 1 705            | 1 665  | 1 793     | 5 163              | 133 614                                  | 1 612            | 1 665  | 1 531     | 4 808     |
| 40-44                                                                     | 149 533                                  | 1 622            | 1 680  | 1 701     | 5 003              | 100 313                                  | 1 445            | 1 465  | 1 416     | 4 356     |
| 45-49                                                                     | 119 328                                  | 1 611            | 1 721  | 1 733     | 5 065              | 77 484                                   | 1 424            | 1 311  | 1 246     | 3 981     |
| 50-54                                                                     | 93 179                                   | 1 605            | 1 887  | 1 822     | 5 314              | 64 955                                   | 1 527            | 1 590  | 1 449     | 4 566     |
| 55-59                                                                     | 61 546                                   | 1 683            | 1 770  | 1 811     | 5 264              | 45 614                                   | 1 522            | 1 555  | 1 442     | 4 519     |
| 60-64                                                                     | 49 712                                   | 2 032            | 2 001  | 2 031     | 6 064              | 37 301                                   | 1 636            | 1 821  | 1 514     | 4 971     |
| 65-69                                                                     | 33 094                                   | 1 849            | 1 956  | 2 012     | 5 817              | 23 680                                   | 1 444            | 1 616  | 1 394     | 4 454     |
| 70-74                                                                     | 21 645                                   | 1 641            | 1 783  | 1 815     | 5 239              | 15 806                                   | 1 370            | 1 435  | 1 289     | 4 094     |
| 75-79                                                                     | 11 663                                   | 1 286            | 1 342  | 1 339     | 3 967              | 8 309                                    | 1 039            | 1 100  | 966       | 3 105     |
| 80-84                                                                     | 5 531                                    | 809              | 875    | 951       | 2 638              | 3 778                                    | 657              | 701    | 664       | 2 022     |
| 85-89                                                                     | 2 003                                    | 366              | 444    | 436       | 1 246              | 1 308                                    | 349              | 348    | 307       | 1 004     |
| 90-94                                                                     | 558                                      | 152              | 161    | 151       | 464                | 381                                      | 120              | 125    | 113       | 358       |
| 95-99                                                                     | 117                                      | 47               | 39     | 38        | 124                |                                          |                  |        |           |           |
| 100 and over                                                              | 24                                       | 8                | 21     | 11        | 40                 | 121                                      | 45               | 31     | 33        | 109       |
| ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS. |                                          |                  |        |           |                    |                                          |                  |        |           |           |
| CALENDAR<br>YEAR.                                                         | MALES.                                   |                  |        |           |                    | FEMALES.                                 |                  |        |           |           |
|                                                                           | AGE INTERVALS OF ONE YEAR.               |                  |        |           |                    | AGE INTERVALS OF ONE YEAR.               |                  |        |           |           |
|                                                                           | 0-1                                      | 1-2              | 2-3    | 3-4       | 4-5                | 0-1                                      | 1-2              | 2-3    | 3-4       | 4-5       |
| 1903                                                                      | 7 845                                    | 2 083            | 918    | 567       | 512                | 6 478                                    | 1 908            | 868    | 528       | 460       |
| 1904                                                                      |                                          | 2 568            | 1 084  | 685       | 512                |                                          | 2 390            | 1 010  | 623       | 360       |
| 1905                                                                      |                                          |                  | 945    | 569       | 387                |                                          |                  | 879    | 533       | 360       |
| 1906                                                                      |                                          |                  |        | 638       | 362                |                                          |                  |        | 545       | 370       |
| NUMBER OF BIRTHS REGISTERED.                                              |                                          |                  |        |           |                    |                                          |                  |        |           |           |
| CALENDAR YEAR.                                                            | 1909                                     | 1910             | 1911   | 1909-1911 | CALENDAR YEAR.     | 1909                                     | 1910             | 1911   | 1909-1911 |           |
| Male births.....                                                          | 63 153                                   | 66 032           | 68 764 | 197 949   | Female births..... | 59 822                                   | 63 048           | 65 780 | 188 650   |           |

## UNITED STATES LIFE TABLES.

TABLE 185 POPULATION AND MORTALITY STATISTICS UPON WHICH ARE BASED THE  
LIFE TABLES FOR THE CITY OF PHILADELPHIA.

Unknown ages distributed.

| AGE<br>INTERVAL                                                           | ESTIMATED<br>POPULATION<br>JULY 1, 1910. | REPORTED DEATHS. |        |           |                    | ESTIMATED<br>POPULATION<br>JULY 1, 1900. | REPORTED DEATHS. |        |           |           |
|---------------------------------------------------------------------------|------------------------------------------|------------------|--------|-----------|--------------------|------------------------------------------|------------------|--------|-----------|-----------|
|                                                                           |                                          | 1909             | 1910   | 1911      | 1909-1911          |                                          | 1900             | 1901   | 1902      | 1900-1902 |
| MALES: 1910.                                                              |                                          |                  |        |           |                    | MALES: 1901.                             |                  |        |           |           |
| 1                                                                         | 2                                        | 3                | 4      | 5         | 6                  | 7                                        | 8                | 9      | 10        | 11        |
| All ages.                                                                 | 763 107                                  | 12 976           | 14 255 | 13 895    | 41 126             | 635 541                                  | 14 139           | 12 200 | 12 297    | 38 636    |
| Years.                                                                    |                                          |                  |        |           |                    |                                          |                  |        |           |           |
| 0-1                                                                       | 16 736                                   | 2 725            | 2 978  | 2 651     | 8 354              | 14 142                                   | 3 240            | 2 307  | 2 324     | 7 871     |
| 1-2                                                                       | 14 706                                   | 607              | 687    | 610       | 1 904              | 12 425                                   | 831              | 592    | 615       | 2 038     |
| 2-3                                                                       | 16 179                                   | 259              | 291    | 298       | 848                | 13 328                                   | 431              | 240    | 257       | 928       |
| 3-4                                                                       | 15 216                                   | 161              | 187    | 177       | 525                | 13 233                                   | 249              | 171    | 204       | 624       |
| 4-5                                                                       | 14 499                                   | 114              | 118    | 143       | 375                | 13 083                                   | 205              | 139    | 130       | 474       |
| 0-4                                                                       | 77 336                                   | 3 866            | 4 261  | 3 879     | 12 006             | 66 211                                   | 4 956            | 3 449  | 3 530     | 11 935    |
| 5-9                                                                       | 67 904                                   | 257              | 302    | 312       | 871                | 63 396                                   | 465              | 337    | 321       | 1 123     |
| 10-14                                                                     | 65 669                                   | 162              | 186    | 156       | 504                | 55 205                                   | 225              | 199    | 166       | 590       |
| 15-19                                                                     | 67 946                                   | 256              | 262    | 291       | 812                | 52 658                                   | 275              | 291    | 295       | 861       |
| 20-24                                                                     | 76 027                                   | 420              | 474    | 466       | 1 360              | 62 008                                   | 461              | 512    | 526       | 1 499     |
| 25-29                                                                     | 74 656                                   | 555              | 574    | 517       | 1 646              | 65 083                                   | 581              | 623    | 610       | 1 814     |
| 30-34                                                                     | 67 363                                   | 599              | 624    | 614       | 1 837              | 59 350                                   | 664              | 585    | 653       | 1 902     |
| 35-39                                                                     | 63 142                                   | 673              | 772    | 825       | 2 270              | 52 758                                   | 718              | 668    | 718       | 2 104     |
| 40-44                                                                     | 53 496                                   | 681              | 809    | 752       | 2 242              | 43 834                                   | 682              | 695    | 673       | 2 050     |
| 45-49                                                                     | 44 354                                   | 744              | 840    | 838       | 2 422              | 32 939                                   | 733              | 653    | 667       | 2 053     |
| 50-54                                                                     | 36 341                                   | 741              | 870    | 914       | 2 525              | 27 017                                   | 731              | 678    | 644       | 2 053     |
| 55-59                                                                     | 23 726                                   | 775              | 792    | 851       | 2 418              | 19 052                                   | 699              | 663    | 650       | 2 012     |
| 60-64                                                                     | 18 247                                   | 787              | 861    | 862       | 2 510              | 14 749                                   | 685              | 710    | 662       | 2 061     |
| 65-69                                                                     | 12 375                                   | 786              | 841    | 842       | 2 469              | 9 550                                    | 676              | 632    | 676       | 1 984     |
| 70-74                                                                     | 7 768                                    | 665              | 705    | 702       | 2 072              | 6 348                                    | 616              | 580    | 570       | 1 766     |
| 75-79                                                                     | 4 130                                    | 506              | 523    | 527       | 1 556              | 3 369                                    | 463              | 460    | 462       | 1 395     |
| 80-84                                                                     | 1 865                                    | 302              | 351    | 315       | 968                | 1 436                                    | 318              | 301    | 311       | 930       |
| 85-89                                                                     | 604                                      | 156              | 143    | 175       | 474                | 435                                      | 142              | 119    | 113       | 374       |
| 90-94                                                                     | 125                                      | 36               | 47     | 46        | 129                | 106                                      | 38               | 32     | 41        | 111       |
| 95-99                                                                     | 32                                       | 6                | 14     | 8         | 28                 |                                          |                  |        |           |           |
| 100 and over                                                              | 1                                        | 3                | 4      | .....     | 7                  | 37                                       | 11               | 13     | 9         | 33        |
| FEMALES: 1910.                                                            |                                          |                  |        |           |                    | FEMALES: 1901.                           |                  |        |           |           |
| All ages.                                                                 | 791 287                                  | 12 053           | 12 790 | 12 381    | 37 224             | 660 310                                  | 12 836           | 11 606 | 11 281    | 35 723    |
| Years.                                                                    |                                          |                  |        |           |                    |                                          |                  |        |           |           |
| 0-1                                                                       | 16 322                                   | 2 267            | 2 357  | 2 119     | 6 743              | 13 995                                   | 2 595            | 1 856  | 1 964     | 6 415     |
| 1-2                                                                       | 14 580                                   | 518              | 630    | 541       | 1 689              | 12 286                                   | 674              | 569    | 557       | 1 800     |
| 2-3                                                                       | 15 653                                   | 220              | 261    | 232       | 713                | 13 063                                   | 348              | 231    | 255       | 834       |
| 3-4                                                                       | 15 229                                   | 142              | 143    | 180       | 465                | 13 214                                   | 228              | 185    | 172       | 585       |
| 4-5                                                                       | 14 379                                   | 111              | 133    | 130       | 374                | 12 943                                   | 193              | 131    | 137       | 461       |
| 0-4                                                                       | 76 363                                   | 3 258            | 3 524  | 3 202     | 9 984              | 65 501                                   | 4 038            | 2 972  | 3 085     | 10 095    |
| 5-9                                                                       | 67 737                                   | 255              | 283    | 280       | 818                | 62 569                                   | 445              | 351    | 283       | 1 079     |
| 10-14                                                                     | 66 082                                   | 190              | 159    | 142       | 491                | 55 168                                   | 183              | 163    | 186       | 532       |
| 15-19                                                                     | 74 314                                   | 284              | 265    | 240       | 789                | 57 601                                   | 284              | 312    | 283       | 879       |
| 20-24                                                                     | 82 960                                   | 432              | 430    | 494       | 1 356              | 70 151                                   | 485              | 505    | 483       | 1 473     |
| 25-29                                                                     | 76 305                                   | 482              | 519    | 477       | 1 478              | 69 227                                   | 565              | 543    | 537       | 1 645     |
| 30-34                                                                     | 66 654                                   | 463              | 531    | 524       | 1 518              | 58 598                                   | 536              | 572    | 553       | 1 661     |
| 35-39                                                                     | 64 021                                   | 574              | 565    | 616       | 1 755              | 52 100                                   | 617              | 608    | 578       | 1 803     |
| 40-44                                                                     | 53 446                                   | 565              | 575    | 519       | 1 659              | 41 821                                   | 529              | 575    | 478       | 1 582     |
| 45-49                                                                     | 44 044                                   | 563              | 575    | 560       | 1 698              | 32 719                                   | 528              | 492    | 514       | 1 534     |
| 50-54                                                                     | 37 010                                   | 625              | 675    | 680       | 1 980              | 27 887                                   | 550              | 550    | 530       | 1 639     |
| 55-59                                                                     | 25 042                                   | 610              | 694    | 633       | 1 937              | 20 574                                   | 562              | 563    | 528       | 1 653     |
| 60-64                                                                     | 21 003                                   | 796              | 792    | 789       | 2 377              | 17 296                                   | 712              | 703    | 592       | 2 007     |
| 65-69                                                                     | 14 770                                   | 738              | 814    | 838       | 2 390              | 12 231                                   | 708              | 665    | 664       | 2 037     |
| 70-74                                                                     | 10 541                                   | 748              | 795    | 781       | 2 324              | 8 499                                    | 738              | 682    | 667       | 2 087     |
| 75-79                                                                     | 6 130                                    | 634              | 667    | 691       | 1 992              | 4 799                                    | 578              | 570    | 535       | 1 683     |
| 80-84                                                                     | 3 133                                    | 477              | 491    | 506       | 1 474              | 2 374                                    | 431              | 433    | 439       | 1 303     |
| 85-89                                                                     | 1 157                                    | 241              | 289    | 275       | 805                | 861                                      | 237              | 220    | 220       | 677       |
| 90-94                                                                     | 293                                      | 96               | 118    | 101       | 315                | 247                                      | 84               | 91     | 79        | 254       |
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